

UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
3 WESTERN DIVISION
4 ---
5 HONORABLE MANUEL L. REAL, JUDGE PRESIDING
6 ---
7 UNITED STATES OF AMERICA, et al.,)
8)
9 Plaintiffs,) NO. CV 90-3122-R
10)
11 vs.)
12)
13 MONTROSE CHEMICAL CORPORATION)
14 OF CALIFORNIA, et al.,)
15)
16 Defendants.)
17)
18)
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REPORTER'S TRANSCRIPT OF PROCEEDINGS

Los Angeles, California

Tuesday, October 17, 2000

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11 PLAINTIFF'S WITNESSES DIRECT CROSS REDIRECT RECROSS

12	SIMANONOK, Steven	90	100
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14 JOINT EXHIBITS FOR IDENTIFICATION IN EVIDENCE

15	4051	97	100
16	4069	92	100
17	4386	91	100
18	4079	97	100
19	4094	95	100

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3 LOS ANGELES, CALIFORNIA; TUESDAY, OCTOBER 17, 2000; 9:00 AM
4 THE CLERK: Item Number 1, CV 90-3122, United
5 States of America, et al. vs. Montrose Chemical, et al.
6 Counsel, your appearances, please. Counsel just
7 stand and make your appearances.
8 MR. O'ROURKE: Your Honor, I'm Steve O'Rourke for
9 the United States as plaintiff.
10 MR. McNULTY: Mike McNulty for the United States,
11 the plaintiff.
12 MS. BYRD: Christine Byrd of Irell & Manella for
13 counterdefendant State of California.
14 MR. PHILLIPS: Layn Phillips, Irell & Manella for
15 counterdefendant State of California.
16 MR. SEMLER: Good morning, your Honor. Michael
17 Semler for the United States regarding the counterclaims.
18 MR. SAURENMAN: John Saurenman, State of
19 California.
20 MR. KUSHNER: Adam Kushner, Department of Justice,
21 your Honor.
22 MS. HURLEY: Ann Hurley, Department of Justice,
23 your Honor.
24 MR. HEMBACHER: Brian Hembacher, State of
25 California, Attorney General's Office.

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1 MR. KLOTZ: Robert Klotz, United States,
2 plaintiff.
3 MS. COX: Jackie Cox for the Department of
4 Justice, your Honor.
5 MR. MUELLER: John Mueller for the United States,
6 your Honor.
7 MR. SPECTOR: Jeffrey Spector for the United
8 States.
9 MS. GILLESPIE: Amy Gillespie for the United
10 States.
11 MR. LYONS: John Lyons for the United States.
12 MS. OSINOFF: Joanne Osinoff for --
13 THE REPORTER: I can't hear.
14 MS. OSINOFF: Assistant United States Attorney
15 Joanne Osinoff.
16 MS. SLIFKIN: Clara Slifkin for the State of
17 California.

18 MR. WOLKOFF: Good morning, your Honor. My name
19 is Harvey Wolkoff. I'm counsel for two of the defendants
20 here, Aventis CropScience USA and Atkemis Thirty-Seven.
21 MR. GALVANI: Paul Galvani, also of Ropes & Gray
22 for the same two defendants.
23 MR. ALLEN: Good morning, your Honor. Jose Allen
24 of Skadden, Arps on behalf of defendant Chris-Craft
25 Industries in this action.

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1 MR. SIMSHAUSER: Good morning, your Honor. Peter
2 Simshauser of Skadden, Arps for Chris-Craft.
3 MR. LYTZ: Your Honor, Karl Lytz on behalf of
4 Montrose Chemical Corporation of California.
5 MR. SINGARELLA: Good morning, your Honor. Paul
6 Singarella with Latham & Watkins on behalf of Montrose
7 Chemical Corporation of California.
8 MR. RAUSHENBUSH: Good morning, your Honor. Rich
9 Raushenbush of Latham & Watkins on behalf of Montrose
10 Chemical Corporation of California.
11 MR. LERMAN: Good morning, your Honor. Cary
12 Lerman of Monger, Tolles & Olson on behalf of Aventis
13 CropScience USA and Atkemis Thirty-Seven.
14 THE COURT: All right.
15 MR. CARROLL: Good morning, John Francis Carroll,
16 special master. The parties would like to put a partial
17 settlement on the record, and I would ask that
18 Mr. Raushenbush and Mr. Klotz come to the lectern.
19 MR. KLOTZ: Good morning, your Honor. Robert
20 Klotz for the United States.
21 MR. RAUSHENBUSH: Good morning, your Honor.
22 Richard Raushenbush for Montrose Chemical.
23 MR. KLOTZ: We wanted to give you notice that the
24 parties have reached an agreement in principle that now
25 encompasses, not just a few key terms, but we think the

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1 actual language of the consent decree. The agreement is, of
2 course, subject to approval by the Assistant Attorney
3 General, and our plan today is to prepare the final
4 document, have both sides review it, get it out for
5 signature as soon as possible today, and, with luck, present
6 or lodge the proposed consent decree with you tomorrow or
7 possibly the next day.

8 The settlement covers what we've referred to as
9 EPA's onshore past costs and past costs for the Department
10 of Toxic Substances Control.
11 MR. RAUSHENBUSH: That's correct, your Honor, and,
12 along with that, we will be filing a stipulation about
13 withdrawing certain written narratives that are now mooted
14 by the settlement.
15 MR. KLOTZ: Thank you, your Honor.
16 THE COURT: All right.
17 The Government wish to make an opening statement?
18 MR. McNULTY: Your Honor, we had some procedural
19 questions to try to make things go as smoothly as possible.
20 Do you mind if we ask a couple of those first?
21 THE COURT: Sure.
22 MR. McNULTY: Your Honor, we have in the event
23 that things don't go exactly our way, some proffer
24 witnesses. We have them here. Their witness statements
25 have been submitted to the Court. I don't know exactly how

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1 you'd like us to handle those. We're prepared to do them in
2 the course of the trial and proffer their testimony at that
3 time, or we can proffer their testimony now, if you're
4 prepared to rule on that.
5 THE COURT: Well, I have not read the proposed
6 witness list, and I don't know who actually was being
7 called. You can call the witness and give me the witness
8 statement, and, as the witness is reading it into the
9 record, we can then take care of it and the
10 cross-examination of it might be available to the defendants
11 for that purpose.
12 MR. McNULTY: Yes, sir. Secondly, in our last
13 meeting I asked a question about whether we would have the
14 twenty to forty minutes to allow the witness to introduce
15 himself to you or herself to you, and highlight their
16 testimony. Have you made a decision on that?
17 THE COURT: Twenty to forty minutes to introduce
18 themselves?
19 MR. McNULTY: No, twenty -- In the order that we
20 talked about there was up to twenty minutes for the fact
21 witnesses and up to forty minutes for the experts. In that
22 period of time they would show demonstratives, and it would
23 be a highlight of their testimony.
24 THE COURT: That's all right. I have no problem.
25 MR. McNULTY: And on exhibited objections, as we

1 introduce exhibits, we'll just deal with the objections at
2 the time?

3 THE COURT: Yes, that's right.

4 MR. McNULTY: That's all I have. Thank you, your
5 Honor.

6 MR. GALVANI: Your Honor, I would just raise one
7 matter. There was a motion in limine with respect to the
8 Department of Justice costs, and your Honor instructed the
9 parties to submit audits covering the last quarter, and I
10 don't know whether you wanted to deal with that before we
11 begin.

12 THE COURT: No. When it comes up, we'll deal with
13 it.

14 MR. GALVANI: All right.

15 MR. PHILLIPS: Your Honor, also on behalf of the
16 counterdefendant State of California, the Court indicated at
17 the last hearing and, as the Court is aware, there is a
18 motion in limine by the counterdefendant State of California
19 on the one remaining breach of trust counterclaim. It's a
20 motion to exclude evidence unrelated to DDT, since the only
21 natural resource damage in the case are DDT, and since the
22 Court has ruled that the injuries that have been suffered by
23 the fish and birds are DDT related. We have that motion in
24 limine pending as well as the motion in limine pending with
25 respect to regulatory conduct.

1 THE COURT: All right. All right, do you want to
2 call a witness or do you want to make your opening
3 statement?

4 MR. O'ROURKE: The plaintiffs would like to make
5 an opening statement, your Honor.

6 My name is Steve O'Rourke. I'm testifying, or
7 speaking on behalf of the United States, and with
8 Mr. Saurenman's permission, I'm also speaking on behalf of
9 State today for the plaintiffs. And the State and Federal
10 counterdefendants will give separate statements, if they
11 choose to. I'm not speaking on their behalf.

12 Your Honor, there are two claims in the complaint
13 from the plaintiffs' point of view. The first claim is for
14 damages. I'll discuss that first.

15 The Court's already found much of what we need to

16 prove to prevail on this first claim for relief. You've
17 already ruled that there were releases of DDT from the
18 Montrose plant to the ocean, and you've already ruled that
19 there are injuries to natural resources, birds and fish,
20 that live in the ocean or on the Channel Islands, and that
21 those injuries resulted from DDT. So that the question for
22 the trial is did the Montrose releases of DDT to the ocean
23 substantially cause the injuries to natural resources
24 resulting from DDT that you've already found. It's just
25 that one little central link that we're going to try to

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1 prove up in the trial.
2 We plan to do that using fact witnesses first and
3 moving in the expert witnesses second, generally speaking.
4 The fact witnesses are largely people who know about the
5 Montrose plant and how it operated and about the releases.
6 There were too many pathways of release from the plant to
7 the ocean environment. One was direct ocean dumping. The
8 waste was shipped by barge out towards Catalina and dumped.
9 And number two was through the sewer system --
10 you've already found that these were releases through the
11 sewer system occurred out to the ocean from 1947 to 1970.
12 And we're going to put on former employees of the
13 plant that talk about how the plant worked, people who
14 worked at or still work at the County Sewer System to talk
15 about how much DDT flowed through. And what this is all
16 going to show you -- and summation documents and exhibits --
17 and what this is all going to show is that large amounts of
18 DDT were released to the environment, not just small amounts
19 of DDT released. And as a result of those large releases,
20 there was injury.
21 To connect the releases to the injured species,
22 we're going to move mostly into expert testimony. We're
23 going to start with marine geologists to talk about the
24 ocean floor, the fact that at the outfall, the White's Point
25 Outfall that comes from the sewage treatment plant, there's

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1 a large deposit of DDT. They estimate it to be at least 100
2 tons spread across the ocean floor that's there from the
3 years of release from the White's Point Outfall.
4 These scientists will tell you that they looked at
5 the ocean floor, and everywhere they looked they found DDT

6 contamination that had spread across the PV Shelf and moving
7 into Santa Monica Bay, and if there's a current, it carries
8 materials to the northwest, towards the northern Channel
9 Islands.

10 Our experts will also explain the concept of
11 biomagnification. This is when living organisms consume,
12 eat DDT and it's stored in their bodies and accumulates.
13 And, as you go up the food chain, and also near the top of
14 the chain get higher levels of DDT contamination. A very
15 simplistic analogy is if you have a worm on the ocean floor
16 who eats one dose of DDT per day, well, if a fish eats ten
17 worms per day, he's getting ten doses. And if a bird eats
18 ten fish per day he's getting 100 doses. And that's why
19 animals at the top of the food chain, like the eagles and
20 the falcons and the sea lions, are the ones who have the
21 highest concentrations and, therefore, the most adverse
22 impacts from the DDT contamination.

23 And that's exactly what happens in the case of the
24 Montrose DDT. A sediment footprint of contamination on the
25 Palos Verdes Shelf is a source up the food chain, and as it

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1 accumulates into the fish, it accumulates into the birds.
2 You've already found that the fish that swim near the Palos
3 Verdes Shelf into Santa Monica Bay are injured by DDT. Our
4 experts will say that those fish are injured by the sediment
5 contamination that's in the sediments upon which they feed.
6 Then that's the stuff that came from Montrose to the White's
7 Point Outfall.

8 And you've already ruled that birds are also
9 injured. Eagles and falcons on the Channel Islands are
10 injured by DDT. This is established. Our experts will
11 simply explain that the injuries are as a result of
12 biomagnification, bioaccumulation of DDT from the Montrose
13 releases.

14 And it's not just the Palos Verdes Shelf that's
15 the cause of these injuries. It's the fact that there was
16 releases through the sewer system for many decades that
17 spewed out into the water, into the ocean environment of
18 Southern California. Some of it piled up on the ocean
19 floor, Palos Verdes Shelf; others moved around; others got
20 accumulated into the food chain.

21 And in addition, of course, there's the ocean
22 dumping out by Catalina where the eagles lived that I
23 mentioned a few minutes ago.

24 And it's the combination of all these sources
25 which are all Montrose DDT sources that is the substantially

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1 contributing cause of the injuries to these eagles and to
2 these falcons. It's not a complicated case. It's the
3 nation's largest manufacturer of DDT; there's a sewer pipe;
4 there's a contaminated ocean environment with eagles and
5 falcons who have reproductive problems and fish that are
6 also injured. And that's what this causation case is all
7 about. With that, we've carried our burden on the first
8 claim for relief. After that, we're just going to ask for
9 natural resource damages and awards.

10 Under the Superfund statute, the CERCLA statute, a
11 natural resource damage award contains three components.
12 The first is a claim for recovery of the cost of assessing
13 the injuries and assessing the damages. That's work that
14 has to be done this evening to determine the extent of the
15 injuries.

16 And the second component is to restore the injured
17 resources to the condition they should be in if the release
18 hadn't occurred.

19 And the third is to compensate the public for all
20 the decades of time when they can't eat the fish, when the
21 birds were unable to reproduce; when there were no birds on
22 the Islands, and the public, the people of Los Angeles, the
23 people of California suffered a loss of the enjoyment of
24 their natural resources, and they deserve compensation for
25 that loss.

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1 All damages awarded under the first claim will
2 have to be used by statute to restore or replace or to
3 acquire the equivalent of the injured resources, or the lost
4 resources. In this case we have a joint State/Federal
5 council of agencies who will take whatever damages are
6 awarded, and vote on, and take public comment on what to do
7 with that money to try to best restore the resources and
8 best compensate the public in a way that makes up for the
9 years of loss and that brings the resources back to the
10 condition they should be in if Montrose hadn't released the
11 DDT that caused the injuries.

12 So the first component on the assessment costs
13 will involve quite a few witnesses. Actually accountants

14 and a lot of exhibits, invoices, and so on. That's towards
15 the end of the case, but that's to prove up that the
16 assessment cost -- approximately \$19 million for the
17 assessment of the injuries and damages. That's the first
18 component of the claim.

19 The second component is to ask for money for
20 restoration of the injured bird resources, and we have an
21 ornithologist who will talk to you about programs they're
22 proposing that cost approximately \$16 million for ten-to-
23 twenty-year programs to try to restore the birds to the
24 condition they ought to be in if the Montrose releases had
25 not occurred.

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1 Finally, we'll ask you for damages for restoration
2 of the injured fishing resource and for lost use of the
3 natural resources, damages to compensate the public for such
4 lost uses. And our evidence on that is the evidence of the
5 contaminated fish, the inability to catch clean fish, the
6 inability to eat fish. The catch -- the years of loss of
7 birds on the Channel Islands, and the problems that are
8 suffered, and we ask you to place a value on that that's
9 sufficient to compensate the people of California for that
10 loss.

11 And with that, that's the end of the first claim
12 for relief, and I will now begin to discuss the second
13 claim.

14 The second claim for relief, as with the first
15 claim, there are very few issues left -- liability and
16 amount of costs. For liability there's an issue that came
17 up in our last hearing. You granted us summary judgment on
18 liability for the first claim -- for the second claim for
19 relief back in April of this year. We thought we had won,
20 and the defendants are trying to say that there's a portion
21 of the releases that were around the Montrose plant that we
22 did not win. Specifically it's a neighborhood near the
23 plant. It's the stormwater pathway running from the plant.
24 We can certainly prepare a brief for you explaining that
25 this was already briefed in the first motion; that we won it

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1 in the first motion; but because of the unclarity, we're
2 going to put on a small amount of evidence about those
3 releases and ask you to award liability judgment for those

4 areas of release.

5 The second liability issue is an issue for the
6 only defendant who you have not adjudicated yet to be
7 liable, and that's Chris-Craft Industries, Incorporated, who
8 you've already found all the elements of liability except
9 for one, that Chris-Craft operated the plant, and that's
10 what we intend to prove.

11 With respect to Chris-Craft, the legal test is
12 under a U.S. Supreme Court case called Best Foods that
13 explains what an operator is. We've already briefed this on
14 summary judgment. If you recall, we moved for judgment of
15 liability; Chris-Craft moved for judgment of non-liability;
16 and you denied them both. You'll probably see our trial is
17 quite similar to what we put on in summary judgment, except
18 we have a reduced burden now. But simply put, there are
19 three reasons why Chris-Craft operated the plant.

20 First, their own documents state that their chief
21 business or their predecessor's chief business was the,
22 quote, management of the operations, end quote, of Montrose.

23 Second, the president of Montrose was in fact
24 never paid by Montrose. He was an employee of Chris-Craft,
25 an agent of Chris-Craft. Chris-Craft could fire him at any

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1 time. And this is the president who ran the whole Montrose
2 operation.

3 And, third, the person who designed the Montrose
4 plant also had no role in Montrose. He was an employee, an
5 officer, actually, of Chris-Craft, and the plant was
6 designed to include a connection to the County Sewer System.
7 And, as a result, the resources went out into the ocean, as
8 we discussed.

9 So those are the two liability issues we intend to
10 prove up. We'll ask you for declaratory judgment and
11 liability against Chris-Craft and to clarify that the
12 declaratory judgment that you've already granted with
13 respect to the onshore areas does indeed include the
14 stormwater pathway in the neighborhood. And, after that,
15 all we have left to prove is the amount of cost that we want
16 to recover.

17 And this is under Superfund, under the second
18 claim for relief for response costs. And the statutory
19 standard is that we get all costs for our response actions,
20 unless the defendants can prove that those costs were
21 inconsistent with the National Contingency Plan.

22 So our burden and what we intend to prove is the
23 amount of costs that have been expended. We're going to do
24 that using accountants, again, and invoices again,
25 voluminous documents to show that the United States has

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1 incurred approximately \$12 million for EPA investigations
2 with respect to the Palos Verdes Shelf and for United States
3 Department of Justice enforcement costs, which is also a
4 response cost. The case was going to be bigger, but, since
5 we settled that onshore areas of cost in a settlement that
6 was mentioned at the beginning, the number is down to 12
7 million, and that's what we will most likely be putting on,
8 assuming that the settlement gets finalized and signed.

9 After we put that on, the burden shifts to the
10 defendants to prove that EPA's and DOJ's response actions
11 were inconsistent with the National Contingency Plan. Under
12 CERCLA they have the burden, and they have to prove that on
13 the administrative record using an arbitrary and capricious
14 standard, and so we won't even be putting evidence on about
15 that because that's their burden.

16 So those are the elements we intend to prove, and
17 I thank you for your time.

18 THE COURT: Mr. O'Rourke, so I have it, are you
19 talking totally now about \$47 million plus the fish?

20 MR. O'ROURKE: Where did the 47 million number --
21 Is that the assessment costs?

22 THE COURT: Only 19 million on the first claim,
23 and 16 million for birds --

24 MR. O'ROURKE: For birds restoration.

25 THE COURT: -- and you didn't give me a figure on

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1 the fish.

2 MR. O'ROURKE: Right.

3 THE COURT: That would be 47 plus the fish?

4 MR. O'ROURKE: There's one additional component.
5 The fish component that you're mentioning is for restoration
6 of the fish to bring a clean fishing resource to
7 fishermen --

8 THE COURT: I understand that.

9 MR. O'ROURKE: The additional component that --

10 THE COURT: You didn't give me a figure on that.

11 MR. O'ROURKE: No, that's correct, sir. And then

12 an additional component for which I did not give a figure,
13 but which is authorized under the statute for recovery, is
14 for the lost use. It's separate from restoration.
15 Restoration is to bring the species to baseline so that the
16 resources are now available. Lost use is to compensate for
17 the past and future inability to use those resources until
18 they're recovered.
19 THE COURT: So we're talking about a total claim
20 now in this trial of 47 million plus the fish.
21 MR. O'ROURKE: Plus the lost use.
22 THE COURT: Loss of use?
23 MR. O'ROURKE: Yes, those are two separate
24 elements. Lost use is not just for fish, it's also for
25 birds. And the lost use, it's a damage authorized by the

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1 statute, and it's within your discretion, to use your
2 equitable discretion to award the damages that you think are
3 appropriate to compensate the people of California for those
4 years of lost use.
5 THE COURT: Do you have any figure for those two
6 things?
7 MR. O'ROURKE: No, sir. We had two figures from
8 the contingent valuation survey and a resource equivalency
9 analysis. The defendants moved to strike those, and you
10 granted those motions. Those are two of the proffer
11 witnesses that Mr. McNulty discussed a few minutes ago. So
12 all we have is a proffer, an offer of proof on that, and the
13 request that you use your discretion based on the other
14 evidence we do have, which is evidence of decades of loss
15 that the resources are unusable, and, therefore, you can
16 award whatever amount you believe is the appropriate amount
17 to compensate the people.
18 THE COURT: All right.
19 MR. O'ROURKE: And then just to clarify, the
20 second claim for relief is a different number.
21 THE COURT: Yes.
22 State of California?
23 MR. PHILLIPS: Your Honor, I represent the
24 counterdefendant in this case, and since my opponents have
25 the burden of proof under the Court's June 26th order I

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1 assume we're going to follow that order, and I'll proceed

2 last, but I'll give my opening statement now if you'd
3 like --
4 THE COURT: Always want to be last, huh?
5 (Laughter.)
6 MR. PHILLIPS: It's their burden of proof, but I'm
7 happy to go now if the Court wants it.
8 THE COURT: You're out of that position yet.
9 MR. PHILLIPS: Right.
10 THE COURT: Defendants?
11 MR. WOLKOFF: Good morning, your Honor. May it
12 please the Court, my name is Harvey Wolkoff, and I'll be
13 speaking on behalf of the defendants in this opening
14 statement.
15 Your Honor, it is true that more than thirty years
16 ago Montrose did discharge wastewater containing DDT to the
17 Los Angeles County Sanitation Districts, and it is true,
18 your Honor, also that there's DDT out in the sediments of
19 the Palos Verdes Shelf.
20 But the evidence is going to show that at every
21 turn the Government exaggerates what really happened, from
22 what came out of the outfall pipe to where it went, your
23 Honor, and also to what's happening to the environment.
24 The evidence is going to show that Montrose's
25 activities were not only entirely lawful, but they were

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1 welcome; that DDT saved millions of lives throughout the
2 world; that it nearly eradicated malaria; that the scientist
3 who discovered the DDT kills mosquitos and other bugs, he
4 was awarded the Nobel Prize in medicine.
5 You'll also hear --
6 THE COURT: No malaria on the White's Point
7 Outfall.
8 (Laughter.)
9 MR. WOLKOFF: No, there's is not, your Honor, but
10 the point is Montrose was manufacturing this DDT, not to put
11 into the outfall pipes, but for agricultural help and to
12 help malaria. And the federal government, your Honor, was
13 the largest purchaser of Montrose's DDT during this entire
14 time.
15 And you're going to hear that Montrose wasn't
16 dumping DDT into the outfall pipes the way that the
17 Government is going to make it sound. It was discharging
18 wastewater under a lawful permit from the LACSD, who, in
19 turn, had a permit from the State of California. Montrose

20 was lawfully sending its wastewater to the LACSD which had
21 the responsibility for treating it.

22 And while you're going to hear a lot of evidence
23 from the Government pointing the finger only at Montrose
24 back at this time, your Honor, we're going to show you
25 studies that were sponsored by the federal government right

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1 at the time that Montrose was discharging its wastewater to
2 the LACSD that showed 200 tons or more of DDT a year washing
3 into the Southern California Bight on what's called the
4 California current, coming down from the north, from the
5 agricultural fields up there. And this dwarfed anything
6 that Montrose was doing, and you're not going to hear a word
7 about that from the Government. We're also going to show
8 you, your Honor, that this agricultural runoff is continuing
9 today.

10 In terms of the environment, the evidence is going
11 to show, your Honor, that the Channel Islands never
12 supported a lot of peregrine falcons or bald eagles. You're
13 going to hear that the most peregrine falcons that were ever
14 recorded out on the Channel Islands were fifteen breeding
15 pairs. There are eight California Channel Islands. That's
16 fewer than two breeding pairs per island. And today you're
17 going to hear that there are just as many breeding pairs of
18 peregrine falcons out on the Channel Islands as there ever
19 were -- fifteen. In terms of the eagles, you're going to
20 hear that --

21 THE COURT: Would there be more if those first
22 fifteen survived?

23 MR. WOLKOFF: There were fifteen breeding pairs of
24 peregrine falcons on the eight California Channel Islands.
25 Today, as I stand here talking to your Honor, there are as

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1 many out there, you'll hear, as there were historically
2 recorded. There are just as many out there now today as
3 there ever were. If anybody wants to go out there and see
4 peregrine falcons on virtually any of these islands, all the
5 northern Channel Islands, one of the southern Channel
6 Islands, you can see them, your Honor.

7 And with respect to the bald eagles, the evidence
8 is going to show that there were fourteen bald eagles out on
9 Santa Catalina, which is the island that the Government's

10 complaining about, you will hear that before Montrose,
11 before Montrose began in 1947, hardly any bald eagles at all
12 on the Channel Island because they'd been shot and harassed
13 and poisoned to the point of elimination. Now today you're
14 going to hear there are fourteen bald eagles on Santa
15 Catalina. They'll tell you has there been human
16 intervention to get them there? Yes, there has, but there's
17 been human intervention, you'll hear, in a lot of places to
18 bring these birds back.
19 And then there's the white croaker, your Honor.
20 You're going to hear that there are just as many white
21 croaker out on the Palos Verdes Shelf as there ever were.
22 And the Government would like to gloss over this, but the
23 white croaker has never been an important fish for fishermen
24 out on the Palos Verdes Shelf at the depths that we're
25 talking about, 120 to 200 feet. Never was important before

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1 Montrose, it's not now.
2 Let's look at the Pretrial Order, your Honor.
3 That's important because that's the governing document here.
4 It complains about three specific species at three specific
5 geographical locations. And this is all it complains about.
6 Injury to the white croaker -- Mr. O'Rourke used the word
7 "fish." These are the fish that they're complaining
8 about -- white croaker; injury to bald eagles on one island,
9 Santa Catalina; and, third and finally, injury to peregrine
10 falcons on the northern Channel Islands.
11 Let's start with that white croaker. What's the
12 evidence going to show about that? It's going to show, your
13 Honor, that the white croaker that have the high levels of
14 DDT, where are they on the Palos Verdes Shelf? They're in
15 120 feet of deep water, or even deeper. You're going to
16 hear that the white croaker at issue played no significant
17 role, never did in any food chain, in any recreational or
18 commercial fishing.
19 You're going to also hear from scientists that
20 this DDT in the fish, it's not toxic to humans. It's not a
21 carcinogen.
22 What's the Government's evidence that you're going
23 to hear on the white croaker? They're not going to show
24 that the white croaker have any reproductive injury. They
25 tried. They withdrew those experts, so they were stricken.

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1 They're not going to show the white croaker have any disease
2 or that there are fewer white croaker out on the Palos
3 Verdes Shelf than there ever were. They're aren't.

4 Instead, what the Government's falls back on your
5 Honor's already ruled on, a definitional injury under the
6 Department of Interior Regulations, and they say, well, some
7 of the white croaker in a particular spot, Zone I, you'll
8 hear, about right near the outfall pipe, they exceed the FDA
9 limit. And there's an fish advisory, yes. And there's a
10 commercial ban, yes. But even though the fish aren't really
11 harmed, there's injury under the regs.

12 Based on that definitional injury they want to
13 jump right away to money for artificial reefs. And we
14 haven't heard a figure. You know, they talk at various
15 times about different amounts. I will tell you the evidence
16 will show, your Honor, that the biggest artificial reef
17 that's ever been built in California cost a million and a
18 half dollars, produces tons of fish, allegedly. They can't
19 just jump, though, to an artificial reef.

20 THE COURT: Firestone can help you on those reefs.

21 (Laughter.)

22 MR. WOLKOFF: Million and a half dollars, largest
23 one in California, your Honor; was built just last year in
24 the San Onofre Project.

25 But they can't just jump, your Honor, to an

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1 artificial reef in the way Mr. O'Rourke would like to. They
2 have to prove two additional things under the law. They
3 have to prove and quantify injury. How many fisherman are
4 we talking about who have been deprived of the opportunity
5 to catch white croaker down at 120 to 200 feet over the
6 world's biggest sewer outfall? Then they have to put a
7 dollar value on that. But, you know, you're not going to
8 hear the Government do either of those things. Your Honor
9 asked questions about that, but they don't have any figure
10 for you. They don't have one. They don't have one for us
11 either.

12 Now, there's a commercial ban, your Honor. What's
13 the evidence of the damages from that? You haven't heard
14 anything from the Government about that, but that's because
15 right before the commercial ban on white croaker, well, the
16 California Department of Fish and Game analyzed, you know,
17 what's this going to do? What's the impact of the

18 commercial ban going to be on fisherman for white croaker at
19 the Palos Verdes Shelf? This is in 1990, right before the
20 ban. Here's what they found, your Honor.
21 There's a small number of local fisherman, four or
22 five, talking about 20,000 pounds of white croaker annually
23 with a value of \$10,800. You're talking about white croaker
24 at 50 cents a pound. The fishermen may move their fishing
25 operations to the south of the Palos Verdes Peninsula. So

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1 you don't hear this from the Government, because we're
2 talking about \$10,800; we're talking about four or five
3 fishermen. We're also talking about the fact that they can
4 move right next door, and there's no damage at all, none
5 whatsoever.
6 And on recreational fishing, what's the evidence
7 going to be on that? We're going to bring before you the
8 foremost expert literally on white croaker in the Southern
9 California Bight; written papers on. His name is Dr. Milton
10 Love. He's going to say, your Honor, that the white croaker
11 out where we're talking about, on the Palos Verdes Shelf,
12 it's just not a desired fish to people in boats. There's
13 fishing at the piers. There's no question about that. But
14 the piers are not a part of this case. And people just
15 don't spend the time and their money to gas up their private
16 boats or spend the 25 or \$50 to go out on party boats,
17 travel out to the Palos Verdes Shelf, you'll hear, pass out
18 120 line or more and try to catch white croaker living at
19 the very ocean bottom over the sewer outfall.
20 We're going to show you also, your Honor,
21 California Department of Fish and Game records, and these
22 are --
23 THE COURT: Let me ask you, Counsel, you told me
24 that there's 200 tons of agricultural runoff that goes into
25 the, I take it, the Channel of Catalina and the Channel

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1 Islands, but you tell me at the Palos Verdes Peninsula there
2 is no DDT?
3 MR. WOLKOFF: Oh, no, your Honor.
4 THE COURT: What happened to the DDT that came off
5 the agricultural runoff?
6 MR. WOLKOFF: There is DDT, your Honor, on the
7 Palos Verdes Shelf. There's no question about that. The

8 DDT, though, you'll hear, that comes from the agricultural
9 runoff -- and this is important -- it's in the water column.
10 There are anchovies, your Honor; there are jack mackerel,
11 the fish that are important in the food chain. They're not
12 white croaker. They're the fish that eat up on the surface
13 of the water.
14 Montrose's DDT is buried, and it keeps getting
15 buried every year, year after year. In fact, your Honor,
16 you're going to hear, because we're going to present it to
17 you -- you're not going to hear it from the Government --
18 that the Army Corps of Engineers, the Government's agency,
19 they recently did an analysis. They're trying to determine
20 how much DDT is coming out of this sediment footprint at the
21 Palos Verdes Shelf, because the Government will tell you
22 there's a hundred tons out there. But how much is coming
23 out; how much is what's called bioavailable? That is, how
24 much can the animals get of that DDT?
25 Montrose's DDT, you know, we're talking most

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1 recently thirty years ago, but the importance of that
2 agricultural runoff is it's in the water column and whenever
3 there's a major storm, it discharges out, and it's available
4 with major storms, right there to the animals, what's called
5 bioavailable. You heard about bioaccumulation. This is the
6 other bio, bioavailable. It's not quantity, your Honor.
7 You'll hear a lot from the Government about quantity of DDT.
8 It's bioavailability of DDT.
9 And, your Honor, coming back to these white
10 croaker and what the Government has to show, but what they
11 won't tell you, we're going to show you records of the
12 California Department of Fish and Game. This is the party-
13 boat catch. It's for the Palos Verdes region, which you'll
14 hear is much larger than the Palos Verdes Shelf; includes
15 it, but it's much larger. The importance of this, your
16 Honor, it's California Department of Fish and Game records
17 that are prior to the advisory in 1985; it's prior to the
18 commercial ban in 1995. This tells us whether fishermen
19 were trying to catch white croaker on the Palos Verdes
20 Shelf.
21 So, for example, the first year you'll see the
22 records for 1981 talking about a total catch of 471,000
23 fish. How many white croaker from the Palos Verdes region?
24 .3 percent. That's not from the Palos Verdes Shelf, a much
25 larger area, but clearly they're not catching white croaker.

1 And you're going to also hear, your Honor, that
2 the defendants conducted two extensive fishing surveys --
3 each one was a year long -- right at the Palos Verdes Shelf.
4 Went to the boat ramps that are closest to the Palos Verdes
5 Shelf, your Honor, and here's what they found. Year-long
6 first survey -- 3,407 fish of various types; 20 of them were
7 white croaker from the Palos Verdes Shelf. And you're going
8 to hear that the survey showed that of the 20 white croaker
9 that were caught on the Palos Verdes Shelf in this year, the
10 fishermen said that most of them were going to be thrown
11 away or used for bait. In fact, you're going to hear that
12 there was only one angler in the entire year who said he
13 might -- might, he wasn't sure -- eat the white croaker.

14 And so despite this evidence, which you're not
15 going to hear from the Government, they want to pass by
16 this. They want to go right to Go, like in Monopoly, you
17 know, just go right to Go. They don't have to put on any of
18 this evidence. They want probably millions of dollars -- I
19 don't know -- to build an artificial reef that's much bigger
20 than any artificial reef that's ever been built in
21 California.

22 And, you know, you'll hear their own witness will
23 say this, their artificial reef witness, that the artificial
24 reef has nothing to do with restoring the white croaker
25 because white croakers live on the sandy bottom. They don't

1 like reefs; they don't like rocks. So, if anything, the
2 artificial reef's going to displace the fish that's at
3 issue.

4 And what does CERCLA require in this regard, your
5 Honor? It requires that you restore, replace or acquire the
6 equipment of the natural resources. Is an artificial reef
7 the equivalent of restoring the white croaker? Mr. O'Rourke
8 said, oh, it's also for the eagles and the falcons.

9 Well, you'll hear their expert saying, "My
10 artificial reef" -- never designed one before -- "But my
11 artificial reef, it's not going to help the peregrine
12 falcons or the eagles one bit." He said it's going to hurt
13 the white croaker, because it's going to displace them.

14 You're also going to hear, your Honor, that this
15 artificial reef report, it's a rough, back-of-the-envelope

16 preliminary report. That's what their own witness says.
17 Ten years of litigation, and that's what they have, a rough
18 back-of-the envelope report. Can't be relied upon for
19 building their artificial reef for millions of dollars.
20 The peregrine falcons, your Honor, that's the
21 second one of the three species we're talking about briefly,
22 hopefully. Your Honor's held, yes, the peregrine falcons
23 are injured because of 15 percent eggshell thinning. That's
24 another one of those definitional injuries that the
25 Government relies upon when they can't show that there's

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1 really any harm to the animals, because what's the evidence
2 going to show? Were there really any fewer peregrine
3 falcons out there? I mean, we've heard 15 percent eggshell
4 thinning. How about the numbers of peregrine falcons?
5 This is a map, your Honor, and what it does -- of
6 the Channel Islands, north and south -- it compares the
7 historical recorded numbers of peregrine falcons with the
8 number of breeding pairs that are out there presently. If
9 you look at it, San Miguel used to have two, now has two
10 breeding pairs. Santa Rosa used to have three, now has six
11 breeding pairs, and so on. If you total them all up in the
12 map of the Channel Islands, the numbers that are listed
13 there, you'll see that there are a total of fifteen breeding
14 pairs of peregrine falcons out there today, and that's known
15 pairs. Their experts will admit that there could be more
16 than those fifteen pairs, and you're going to hear that that
17 matches the historical number of peregrine falcons out there
18 on the Channel Islands. In fact, that historical number of
19 fifteen, where does that comes from? It comes from one of
20 their experts, because before the litigation began, before
21 all this litigation began, he did extensive research to try
22 to determine what's the maximum number of falcons that have
23 ever lived out on the Channel Islands -- fifteen. He did an
24 island-by-island search. That's what he came up with.
25 You're also going to hear that the California

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1 Department of Fish and Game, they sponsored the peregrine
2 falcon recovery plan back in the eighties and before this
3 litigation began. And they set out a goal, given the
4 conditions at the Channel Islands. That goal, your Honor,
5 was to have five breeding pairs of peregrine falcons on all

6 of the Channel Islands -- five. Why is this an issue?
7 We've got fifteen breeding pairs, three times as many as
8 they set out in their goal before the litigation began. You
9 don't hear anything of that from the Government.
10 Now, what the Government may say is that there
11 aren't any peregrine falcons on the southern Channel
12 Islands, although I've got to say in their Pretrial Order
13 all that it says is they're complaining about the northern
14 Channel Islands. The Local Rule precludes them from moving
15 out to some other area. There is one breeding pair in the
16 southern Channel Islands; it's at Santa Barbara.
17 But, you know, you're going to hear that in the
18 southern Channel Islands there never were very many
19 peregrine falcons, and it's not a place that's a good
20 habitat for them. At most there are only three or four
21 fewer pairs than historically recorded out there, and that's
22 only on a couple of islands that we're talking about --
23 Santa Catalina, San Clemente. You're going to hear the
24 habitat is just not suitable. In fact, you're going to hear
25 that Navy installations, Government overlooks this -- Navy

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1 installations on two of the four southern Channel Islands
2 they have bombing practice there. No wonder there aren't
3 peregrine falcons.
4 Plus on top of this, your Honor, the Government
5 isn't going to be able to show that it's because of DDT that
6 there aren't peregrine falcons on the southern Channel
7 Islands. What they're going to do is they're going to show
8 you all the DDT that came out of the outfall pipe thirty,
9 forty years ago. They're not going to tell you, for
10 example, that their own expert released sixteen peregrine
11 falcons on the southern Channel Islands, and they all flew
12 away. Had nothing to do with DDT; it has to do with the
13 habitat.
14 We'll bring on an expert, Dr. John Giesy, the
15 foremost expert who works with these raptors all the time.
16 He's going to point to the absence of enough prey birds in
17 the southern Channel Islands as the possible reason for the
18 peregrine falcons leaving the southern Channel Islands.
19 Plenty up north, one pair south. But why aren't they in
20 some of these other islands? They're not prey birds he says
21 he thinks the reason is.
22 There's another point here, your Honor, and this
23 is very important because you're going to hear this from the

24 Government over and over again. The Government says that
25 these animals are more injured; they're going to say the

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1 peregrine falcons are more injured on the Channel Islands
2 than anywhere else. It's not true, your Honor.
3 Look at this. This shows the eggshell thinning in
4 the State of California. It comes from their own data.
5 It's not something that we made up. Their own data. From
6 1975 to 1993 on into 1993. Northern interior, more than
7 15 percent, which is their benchmark. Southern interior,
8 more than 15 percent. Northern coast, central coast, et
9 cetera. You're going to hear that there's no material
10 difference in the eggshell thinning between and amongst any
11 of these areas, your Honor. And you know what? There's no
12 Montrose there. No Montrose where the peregrine falcons
13 have more than 15 percent in the other areas in the State of
14 California. Well, how is the peregrine falcon going to get
15 near DDT given the fact they're over 15 percent in all these
16 other places?
17 We're going to introduce evidence, your Honor,
18 touching upon the question you asked earlier -- high levels
19 of DDT coming out of the rivers. Let's look at the Santa
20 Clara River which is the one that's closest to the northern
21 Channel Islands where the birds live, peregrine falcons
22 live. 248 parts per trillion. That's what that is. 248
23 parts per trillion. And here the Government says one part
24 per trillion, one is enough to injure the birds. Here we've
25 got 248 times that's coming out of the rivers. You won't

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1 hear anything about that from the Government. They just
2 want to point to Montrose.
3 You're also going to hear that there are high
4 levels of DDT in the mussels and the clams that the river
5 discharges and in the estuaries. I mean, here's a chart
6 that was done by one of our experts Noel Davis. Look at
7 Mugu Lagoon. Look what's in the mollusks, which are clams
8 and mussels. And this is DDT again. It's at the surface.
9 That's where you'll hear these clams and mussels live in the
10 water column. This is where the DDT is available. Look how
11 close that is.
12 Now, the Government's going to say it's all
13 Montrose. Look at this. And this comes from the

14 Government's own Mussel Watch Program that Noel Davis,
15 Dr. Noel Davis put together. And something interesting
16 you're going to hear about Mugu Lagoon. You're going to
17 hear a lot about it. It's a very interesting place. Not
18 only is it much closer to these birds on the northern
19 Channel Islands, but it's very shallow, you're going to
20 hear, your Honor; goes in and out the ocean with the tides.
21 The DDT is right at the surface, right at the surface, and
22 it's very available to the animals.
23 Let me show you a satellite photo of Point Mugu.
24 You'll see a couple of these. We're going to keep the
25 number down. Here's the Santa Clara River we spoke about

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1 before. That's 248 parts per trillion, 248 times what the
2 Government says is enough to hurt the birds. Look at this
3 during a major storm. Look at the plume that's coming out
4 of the Santa Clara River, 1997, your Honor. It envelops
5 Anacapa; you can't even see Anacapa. This is where the
6 birds live. Coming right out there.
7 We're going to have an renowned oceanographer.
8 Her name is Dr. Barbara Hickey. She's going to describe
9 this to you, your Honor, because you're not going to hear
10 about any of this from the Government.
11 You're also going to hear that the Navy dumped DDT
12 out at Mugu Lagoon. In fact, that's the basis of the
13 defendants' counterclaim against the Federal Government.
14 And you're going to hear who owns Mugu Lagoon, the Federal
15 Government. And as they sit here today, what have they done
16 to clean up Mugu Lagoon -- they haven't done a thing.
17 That's what you're going to hear.
18 On top of this historically, your Honor, what you
19 alluded to before, huge amounts of DDT, what's called
20 advection. You're going to hear that word, "advection." It
21 means DDT from agricultural runoff coming into the Southern
22 California Bight in the water. This is from a report you're
23 going to see that was sponsored by the United States
24 Government. What it shows is advective transport coming in
25 on the California current from the northern agricultural

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1 fields 200 tons a year. This is in 1971, right when
2 Montrose was stopping its operation, stopping its
3 discharges, 19 tons from all of the outfalls. That's not

4 just the White's Point Outfall. That's all the outfalls,
5 19, 200 to 19; and yet the Government doesn't say anything,
6 not one word about these 200.

7 THE COURT: What was Montrose discharging in those
8 years?

9 MR. WOLKOFF: Well, your Honor, that's open to a
10 big dispute as to what Montrose was discharging. Nobody --

11 THE COURT: What's the range of the dispute?

12 MR. WOLKOFF: They claim, your Honor, that
13 Montrose is responsible for 1800 tons over the course of
14 twenty-five years. 100 tons are in the sediments at the
15 Palos Verdes Shelf, and that was thirty years ago, your
16 Honor. The outfall pipes are almost 200 feet down in the
17 ocean, so when the DDT starts out it's pretty far down.

18 I told you before about that Government analysis
19 of only four pounds coming up. You're also going to hear,
20 your Honor, that much of what's down there is biodegrading.
21 Biodegrading, that means that it's breaking up. You're
22 going to hear a lot from the Government about this ocean
23 dumping. They want to point to it because it's near Santa
24 Catalina, sanctioned by the Federal Government. It's near
25 Catalina.

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1 THE COURT: Does this 200 tons stick around?

2 MR. WOLKOFF: It passes through, your Honor. It
3 passes through on the upper part of the water current. And
4 it's available to the anchovies and the mackerel high up in
5 the water column, the fish that are part of the food chain.
6 The white croaker is down at the very bottom of the ocean.
7 They're not part of the food chain. These fish it's
8 available to are up in the food chain. That's what you'll
9 hear.

10 Your Honor, the ocean dumping, just a brief word
11 about that. Forty or fifty years ago is when it happened.
12 They're not going to try to highlight it, but it was down in
13 2500 feet, deep ocean water. And the proof is in the
14 pudding. We're going to show you readings of the fish and
15 the sediment right next to that ocean dumpsite, and it's
16 very low. So again, it's not quantity, it's what's escaping
17 to the animals, and it's not escaping to the animals. It's
18 2500 feet down in the water.

19 Let's hear what their own expert -- I'm sorry --
20 witness who talks about the ocean dumping says about it.
21 Very little is known about environmental transport or

22 biodegradation of DDT at such depths about 2500 feet. Talks
23 about low bioavailability due to the extreme depth. And
24 we're talking about 2500 feet down there in the deepest part
25 of the ocean where this DDT is. Government talks about it

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1 like it's right up on the surface. What is on the surface
2 they don't talk about, the agricultural runoff.
3 Same thing goes for the Government's theory, which
4 is fairly recent, that, you know, just a little bit of the
5 DDT that's in the -- you know, that came out of outfall
6 pipes is in the sediment footprint. There's a lot of DDT
7 that's somehow, you know, working its way in the sediments
8 outside of the Palos Verdes Shelf.
9 Well, the DDT from Montrose long ago since settled
10 into the sediment. And they're going to show you some
11 gradients of -- you know, ask yourself when you see that,
12 are these bottom fish, fish on the bottom, because the prey
13 fish up on the top, they're getting their DDT from the
14 agricultural runoff which is happening now.
15 So the bottom line, quickly to finish up on the
16 peregrine falcons, the Government isn't going to be able to
17 show that this was Montrose's DDT that caused any injury;
18 that the fact that 15 percent eggshell thinning in so many
19 places, so many places where Montrose wasn't shows it's
20 agricultural runoff right where the birds live, just as many
21 peregrine falcons out there as ever recorded, and they
22 haven't recorded or produced, your Honor, any evidence of
23 bird watchers who can't see as many peregrine falcons out
24 there. If they want to, put a dollar value on that.
25 Now, you're going to hear that, despite all of

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1 this, the Government wants \$5 million for a peregrine
2 restoration project. They lump together the eagles and the
3 falcons, but it's \$5 million for the falcons, and there are
4 so many peregrine falcons. They're off the endangered list.
5 You'll hear it only cost \$3-1/2 million over the last twenty
6 years for the Government to restore peregrine falcons in the
7 entire western United States, but now they want \$5 million.
8 And because there are so many peregrine falcons out on the
9 Channel Islands, their \$5 million plan includes putting
10 peregrine falcons on coastal Southern California from San
11 Diego -- actually all the way up to San Francisco --- and on

12 to Big Sur. This is from their own restoration program.
13 They're not entitled to that.
14 Third and final species, your Honor, the bald
15 eagle. The Government's experts themselves are going to say
16 there were fourteen bald eagles living on Santa Catalina.
17 All over the island, these highlighted places are where
18 they're living. It's more than 1947, before DDT was
19 introduced. If you went out before Montrose started, 1946,
20 1947, their own experts will admit this, that you couldn't
21 see bald eagles -- maybe one, maybe two. Today if you want
22 to see bald eagles on Santa Catalina, you can see bald
23 eagles on Santa Catalina. In fact, you'll hear that bird
24 watchers have been able to see bald eagles on Santa Catalina
25 for at least the past fifteen years.

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1 What does the Government introduce about evidence
2 quantifying damages with respect to the bald eagles? Again,
3 they want to skip over that. They never say how many eagles
4 there would be on Santa Catalina if not for DDT. You won't
5 hear one word about that. Not one of their witnesses will
6 say how many eagles there would be on Santa Catalina if not
7 for DDT. They never say how many bird watchers have been
8 deprived of the opportunity to see eagles. They never put a
9 dollar value on any of that.

10 I want to briefly point out that the past costs
11 that have been incurred in hatching bald eagles out of the
12 Santa Catalina Island, that's been mostly private money.
13 The Government isn't even trying to get that.
14 You're also going to hear, your Honor, that
15 there's no evidence that its Montrose's DDT that's causing
16 this injury to the eagles. The Government admits -- and
17 this is important -- that the bald eagles on Santa Catalina,
18 they don't fly over to the Palos Verdes Shelf and get their
19 DDT. The bald eagles stay at Santa Catalina. You'll hear
20 that the fish with the elevated levels of DDT, the white
21 croaker, they stay at the Palos Verdes Shelf. So what the
22 Government had to do was they had to come up with a theory
23 to get the DDT at the Palos Verdes Shelf out to the birds.
24 You're going to hear -- this is their theory.
25 They say sea lions swim to the Palos Verdes Shelf and just

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1 north in Santa Monica Bay. Then the sea lions dive down to

2 the bottom of the ocean, 100, 200 feet down, and they eat
3 white croaker. Then they swim out to Santa Catalina; they
4 die, and the eagles eat the carcass. So their theory is sea
5 lions eating white croaker out or near the Palos Verdes
6 Shelf. Big problem. One big problem with their theory,
7 your Honor, briefly, sea lions don't eat white croaker.
8 We've gathered together the studies for you. Santa
9 Catalina, the island where the bald eagles live, white
10 croaker, zero percent of the sea lion diet. San Miguel,
11 white croaker, zero percent. San Nicolas, white croaker,
12 zero percent of sea lions. San Clemente, white croaker, .05
13 percent. They don't eat white croaker. They don't dive
14 down and eat white croaker.
15 Another big problem is you'll hear that these sea
16 lions, they live out at the northern Channel Islands. They
17 don't forage at the Palos Verdes Shelf and just north of the
18 Palos Verdes Shelf. We're going to bring on a marine mammal
19 expert. His name is Burney LeBoeuf. He studied sea lions,
20 your Honor, in the Southern California Bight for thirty
21 years. It's his life's work. And he'll establish that sea
22 lions don't forage in the Palos Verdes Shelf. And you're
23 not going to hear any marine biologist or ecologist from the
24 Government, for all the people they have sitting here in the
25 back of this room, they're not going to bring on one of them

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1 that says that sea lions go to the Palos Verdes Shelf and
2 eat white croaker, not one to support their theory.
3 Instead, what they're going to rely upon is an engineer
4 you'll hear, an engineer with a hypothetical model. His
5 name is Dr. John Connolly, and without any foundation he
6 puts into his hypothetical model he assumes that sea lions
7 do eat white croaker at the Palos Verdes Shelf. Puts it
8 into his model, and it's just wrong.
9 So let's look at what he admitted at his
10 deposition when he was confronted with the truth.
11 Question, "So with respect to the birds then, you
12 didn't identify the Palos Verdes Shelf in particular as the
13 source of the contaminants; isn't that correct?"
14 "That's correct."
15 So the bottom line on the bald eagles, again
16 briefly, the Government hasn't quantified any damages. They
17 haven't proved it's Montrose's DDT through this strange
18 theory of theirs that's contrary to what happens in the real
19 world. And on top of this, your Honor, you'll hear the

20 \$11 million they want for the eagle restoration project, is
21 for eagles not just on Santa Catalina, but it's on the
22 mainland, it's up north, it's for places that have nothing
23 to do with the island that's in issue in this case.
24 So we've addressed the three species of concern
25 that are in the Pretrial Order, and two matters left under

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1 Count One. Government's claim, this lost use that
2 Mr. O'Rourke forgot, so important he forgot to even to
3 mention it to your Honor. Your Honor had to inquire about
4 it: "Do you have anything else? This claim for an
5 unspecified amount of lost use damages, and, second what are
6 called assessment costs, what's the story on lost use
7 damages?"

8 You're not going to hear any evidence from the
9 Government proving any lost use damages, your Honor, from
10 after CERCLA was enacted back in December of 1980.

11 On fish, your Honor, you're not going to hear any
12 evidence from the Government that people were fishing for
13 white croaker on the Palos Verdes Shelf before Montrose, and
14 now they can't. The evidence is all to the contrary, so
15 they're not going to show it to you; we're going to show it
16 to you.

17 On peregrine falcons you'll hear that peregrine
18 falcons have been out there on the Channel Islands for at
19 least the last decade. The bald eagles, both bird watchers
20 have been able to see bald eagles out there on Santa
21 Catalina for at least the last fifteen years, their own
22 expert says.

23 So there's no evidence of this lost use or, even
24 if there were, what the lost uses would be worth.

25 And with respect to the assessment costs under

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1 Count One, your Honor, they want \$19 million for their
2 investigation. Ten years they've been investigating this.
3 This is what they've come up with. The evidence will show
4 they're not entitled to \$19 million under anything because
5 they haven't proved any damages, and, even if they could,
6 we're going to show that that \$19 million includes many
7 items that they should have taken out, many stricken
8 witnesses, for example, that are still in there, and that
9 \$19 million goes well beyond the bounds of reasonableness.

10 That's Count One, your Honor.
11 THE COURT: Well, stricken witnesses don't
12 automatically go out. They were used --
13 MR. WOLKOFF: Well, your Honor, you struck them.
14 THE COURT: -- and used in good faith. The fact
15 that something came along, like an opinion of the Supreme
16 Court, doesn't vitiate all the costs.
17 MR. WOLKOFF: Agreed, your Honor. There wasn't
18 any opinion of the Supreme Court here. What there was was
19 misconduct, and your Honor struck a number of these
20 witnesses for their own misconduct for hiding the ball.
21 MR. McNULTY: Your Honor, I've got to object to
22 the characterization. You know, if we want to start talking
23 about misconduct, there's a lot we could talk about.
24 THE COURT: Proceeding. This is an advocacy I
25 understand.

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1 MR. WOLKOFF: Well, anyway, your Honor, the money
2 for those stricken witnesses, it shouldn't be in there.
3 Now, that's Count One.
4 I want to briefly touch upon the defendants'
5 counterclaim. It's against the State of California for
6 breach of public trust. If there are any damages here, your
7 Honor, you're going to hear that the State bears the
8 responsibility.
9 Your Honor has heard a lot about the counterclaim.
10 We've inundated you with motions concerning the
11 counterclaim. During the argument on those motions -- I'm
12 pointing to the August 28th, year 2000 transcript -- the
13 State's lawyers said, quote, "We did not say we bear no
14 responsibility." In fact, you will hear that they do bear a
15 significant responsibility because the evidence is going to
16 show that Montrose had a lawful permit to discharge this
17 wastewater.
18 The State could have made the LACSD treat the DDT
19 in Montrose's discharges, but they decided not to. Instead,
20 you'll hear that the evidence will show the State knowingly
21 allowed the LACSD to send virtually all the industrial
22 sewage, not just Montrose, all the industrial sewage
23 virtually of Los Angeles County for the Palos Verdes Shelf
24 through this world's largest open ocean outfall with only
25 minimal treatment they require.

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1 You're also going to here the LACSD routinely
2 violated its permits from the State of California by sending
3 out more particulars than it was allowed to and that the
4 State ignored warnings from its own agencies of what this
5 was doing or could potentially do to the environment out
6 there. So, if there any damages, your Honor, you're going
7 to hear that it's the State of California's fault.

8 Very briefly, Count Two, which is about the EPA's
9 response cost. Here we agree with the Government there's
10 not much left to try. There's an issue of defendants'
11 liability for the stormwater drains and ditches that are not
12 contiguous to the Montrose plant. The evidence will show
13 the Government won't meet its burden of demonstrating that
14 the low levels of DDT that are in these drainage ditches
15 came from Montrose.

16 And, finally, there were some response costs for
17 the Palos Verdes Shelf. It's the same issue again, your
18 Honor, about whether or not those response costs are
19 reasonable and whether or not they should be entitled --
20 your Honor struck at least three witnesses who I can think
21 of right now for misconduct from that should they be
22 entitled to recover those costs.

23 Your Honor, it's a case that's been going on for
24 over a decade. And during that decade the Government's
25 investigated and investigated trying to shoe that Montrose

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1 is liable for millions and millions of dollars for something
2 that was entirely lawful, and for injuries that are
3 definitional injuries that don't lead to any damages in the
4 real world.

5 The evidence is going to show, your Honor, that
6 Montrose is no more liable for manufacturing DDT than the
7 Federal Government is for buying most of it, or the State is
8 for allowing it to be discharged into the ocean.

9 Mr. Allen, on behalf of Chris-Craft is going to
10 talk briefly about the issue of Chris-Craft's liability,
11 your Honor. Thank you.

12 THE COURT: Well, what took all of this time to
13 get to today? The motions that could have been made very
14 early in this lawsuit based upon what you say, there's
15 nothing here.

16 MR. WOLKOFF: Well, your Honor, one of the things
17 that took a long time is you won't see -- your courtroom is

18 packed, but you won't see the many witnesses who I
19 personally deposed and other defendant lawyers deposed, your
20 Honor, who withdrew what they had said in their reports, who
21 withdrew comments -- Dr. Spies, for example. He was one of
22 the Government's experts on kelp bass. And he wound up
23 testifying. In fact, it was showed -- his data showed that
24 the kelp bass were reproducing at the Palos Verdes Shelf as
25 well, if not better, than elsewhere. But we had to go

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1 through all of that ton of paper. I mean, there's a reason
2 why they have \$19 million of investigative costs. And we
3 had to go through all of that.

4 It shouldn't have taken ten years, your Honor. We
5 appreciate the opportunity to be here on an expedited
6 schedule. Shouldn't have taken ten years. That's clear.

7 MR. ALLEN: Good morning, your Honor. My name is
8 Jose Allen, and I represent Chris-Craft Industries.

9 Your Honor, I have to admit that I have some big
10 shoes to fill this morning, and I'm going to try my best. I
11 want to briefly explain while the evidence will show that
12 plaintiffs are flat wrong in claiming that Chris-Craft, a 50
13 percent shareholder of Montrose, is liable under CERCLA
14 because it supposedly operated the former Montrose plant.

15 Now, I expect the Government is going to spend a
16 lot of time during its case talking about Samuel Rotrosen,
17 Montrose's president, and raising things like various
18 letters that he may have written to the IRS, documents that
19 he signed while he was president, and conversations that he
20 had with people who were in the Torrance plant who were
21 running the Montrose plant on a day-to-day basis.

22 Of course, Mr. Rotrosen did these things. As you
23 will hear him testify, he was Montrose's president, and as
24 its president he managed its business, even though his
25 office was 3,000 miles away in New Jersey, and he had a

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1 separate business to attend to.

2 But the fact that Montrose's president did these
3 things doesn't mean anything. The issue isn't about how
4 many letters Mr. Rotrosen wrote, what documents he signed,
5 who he talked to or, for that matter, whose name appeared on
6 his paycheck. The evidence will show that the Government
7 cannot carry its heavy burden under the Supreme Court's Best

8 Foods decision to overcome the presumption that
9 Mr. Rotrosen's actions and the other officers of Montrose
10 were actions taken on behalf of Montrose, and not on behalf
11 of Chris-Craft.
12 Congress did not get rid of the basic common law
13 principle of limited shareholder liability when it enacted
14 CERCLA. And the evidence will show that the Government
15 cannot demonstrate that there was anything so unusual about
16 Chris-Craft's relationship with Montrose, its 50 percent
17 owned subsidiary, to give rise to shareholder liability
18 here.
19 The evidence will show that it was Montrose's
20 supervisors, its managers and employees who ran the Torrance
21 plant. The plaintiffs' theory that Chris-Craft was somehow
22 calling all of the shots at Montrose and dominating its
23 fears just doesn't hold water when you actually take a look
24 at how Montrose was organized and how it carried out its
25 business.

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1 First, let's start with Montrose's corporate
2 structure. From the first time Montrose was formed in 1946
3 Chris-Craft and its corporate predecessors owned only 50
4 percent of the stock of Montrose. The other 50 percent of
5 the stock was owned by Stauffer Chemical Company during all
6 of the years that Montrose manufactured DDT. The two
7 shareholders did not jointly own any other businesses.
8 Under the 1946 contract between them, which is known as the
9 master agreement that you'll be hearing are more about in
10 this case, each shareholder was entitled to elect an equal
11 number of directors to the Montrose board so that throughout
12 its history the board was evenly divided between board
13 members who were elected by Chris-Craft and board members
14 elected by Stauffer. All major decisions concerning
15 Montrose's business affairs had to be approved by Montrose's
16 Board of Directors and the board's decisions had to be by
17 majority vote. As a practical matter, this meant that no
18 major business decision could be made unless both
19 shareholders agreed on a course of action.
20 THE COURT: Sounds like a joint venture, doesn't
21 it?
22 MR. ALLEN: Well, your Honor, you're allowed to
23 have -- If you do it in a corporate form, there's still
24 limited liability --
25 THE COURT: I understand that.

1 MR. ALLEN: -- for the shareholders.

2 THE COURT: I understand that. It is a joint
3 venture in the nature of things.

4 MR. ALLEN: In the nature of things it's two
5 companies, two shareholders who came together to form a
6 corporation that was separately incorporated with its
7 separate board and its separate officers.

8 THE COURT: Both operating.

9 MR. ALLEN: Both not operating the facility, your
10 Honor. The focus is on the operation of the facility and
11 not the operation of the business, which is the key point
12 that the Supreme Court makes in the Best Foods decision.

13 THE COURT: Did the CEO of Chris-Craft get any
14 bonuses as a result of the sales?

15 MR. ALLEN: Not the CEO of Chris-Craft, your
16 Honor. There was the president of Montrose who would
17 receive a bonus from time to time based upon his performance
18 as the Montrose president.

19 THE COURT: I may have misheard you, then. I
20 thought you said it was Chris-Craft's president.

21 MR. ALLEN: Your Honor, if I said Chris-Craft's
22 president, I misspoke. It was Montrose's president.

23 So, your Honor, Chris-Craft couldn't dominate or
24 dictate what Montrose did and couldn't control its business
25 operations.

1 Second, the evidence will show that Mr. Rotrosen,
2 Montrose's president, put Montrose's interests first. Under
3 the master agreement with Stauffer he, Pincus Rothberg
4 another name you'll in this case, and Benjamin Rothberg
5 acted as Montrose's senior officers even though their
6 offices were 3,000 miles away in New Jersey.

7 Now, there was a simple historical reason for
8 this. When Montrose --

9 THE COURT: Let's go back for just a minute.
10 50 percent shareholder, Montrose couldn't act without
11 Chris-Craft either, could it?

12 MR. ALLEN: Your Honor, when you say Montrose
13 could not act without Chris -- Montrose could not act
14 without the approval of its Board of Directors.

15 THE COURT: Which was 50 percent Chris-Craft.

16 MR. ALLEN: 50 percent of the Board of Directors
17 were elected by Chris-Craft. The other 50 percent of the
18 Board of Directors was elected by Stauffer.

19 THE COURT: So Montrose could not operate without
20 50 percent vote or 1 percent vote of the Chris-Craft
21 directors.

22 MR. ALLEN: Both directors had to agree with
23 respect to business operations, but, your Honor, there's a
24 distinction between the business operation and the focus in
25 the Best Foods case, which is, it's not who's operating the

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1 business. The question is, who is running the plant in
2 Torrance, and is that being done by Montrose employees,
3 supervisors or management, or is it being done by the
4 shareholders, Chris-Craft or Stauffer and its corporate
5 successors.

6 THE COURT: Well, is Mr. O'Rourke then wrong when
7 he says Chris-Craft employees were in and running the
8 Montrose plant?

9 MR. ALLEN: What Mr. O'Rourke, I believe, is
10 referring to is that, for historical reason, which you will
11 hear from Mr. Rotrosen, Mr. Rotrosen remained on the
12 Chris-Craft payroll, but he was separately elected as the
13 president of Montrose. And the ability to hire and fire the
14 Montrose president resided in the Montrose board. So, even
15 if Chris-Craft were to get rid of Mr. Rotrosen, he would
16 still have held his position if the Montrose board decided
17 to do so to retain him as president, but his allegiance and
18 his --

19 THE COURT: If a Chris-Craft director said, "No,
20 go"?

21 MR. ALLEN: No. Both the boards would have to
22 agree by majority vote to tell Mr. Rotrosen to go.

23 THE COURT: Well, and if the Chris-Craft director
24 said we aren't going to pay him, who pays him then?

25 MR. ALLEN: He would still retain his position as

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1 president of Montrose.

2 THE COURT: Well, then, we are not going to let
3 Montrose pay him either.

4 MR. ALLEN: I'm sorry, your Honor?

5 THE COURT: If he had 50 percent of the vote.

6 MR. ALLEN: Well, I don't believe that it would
7 work that way, your Honor, because the officers are elected
8 annually by the board, and so what would happen is if, for
9 one reason or the other, the board was dissatisfied with the
10 performance of an officer it could simply refuse to reelect
11 the officer to that position.

12 Now, thirdly, your Honor, Montrose followed all
13 corporate formalities here. It had its own bylaws; it had
14 Board of Directors meetings and annual shareholder meetings.
15 It had its own bank accounts and assets. It paid its own
16 debts, and it paid its own taxes.

17 Now, let me talk about the practical realities of
18 Montrose's business. As I mentioned, Montrose's senior
19 officers all lived and kept their offices in New Jersey.
20 The Montrose plant was on the other side of the country in
21 Torrance. As Mr. Rotrosen will testify, they visited the
22 plant only a few times a year.

23 He will further testify that he focused on
24 Montrose's business affairs, such as negotiating with
25 Government for purchases of DDT, and not on fine points of

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1 plant operations, which is the key element.

2 In addition, for the majority of time that Samuel
3 Rotrosen, Pincus and Ben Rothberg served as Montrose
4 officers, they also had management responsibilities for
5 another company and another chemical plant in New Jersey.

6 Common sense tells you, then, that as a practical
7 matter they could not be deeply involved in the day-to-day
8 operations of a plant located on the other side of the
9 country and separated by a three-hour time difference. The
10 only logical thing for them to do was to delegate the
11 day-to-day running of the plant to the people nearest to the
12 plant, and that's exactly what they did. The evidence will
13 show that Montrose had its own supervisors and managers on
14 Montrose's own payroll, who were responsible for running the
15 plant and making decisions about manufacturing, plant
16 improvements and waste disposal.

17 Montrose also had line employees on its payroll
18 working at the plant. At its peak there were about 300
19 people working at the Torrance plant.

20 For all of these reasons, your Honor, the evidence
21 will show that Chris-Craft's relationship with Montrose was
22 completely consistent with the way corporations normally
23 deal with its subsidiaries. It allowed Montrose to function

24 independently; it left Montrose's officers free to do their
25 jobs without interference; and it was not involved in

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1 running the Torrance plant.

2 In short, the evidence will show that Chris-Craft
3 and its predecessors did not dominate or control Montrose,
4 but rather acted in all respects consistently with accepted
5 norms of parent/subsidiary relationships. Montrose had its
6 own separate and independent existence, both in the real
7 world and as a matter of corporate law. Therefore, your
8 Honor, there's no basis for ignoring the common law standard
9 of limited shareholder liability as to Chris-Craft.

10 Thank you, your Honor.

11 THE COURT: All right. We'll have to take a
12 recess for the reporter. She's got too many people talking
13 already. Ten minutes.

14 (Recess.)

15 THE COURT: All right.

16 MR. SEMLER: Good morning, your Honor. Michael
17 Semler on behalf of the United States with regard to the
18 counterclaims.

19 On September 18th this Court dismissed all of the
20 counterclaims against the United States with one exception,
21 and that exception is the claim that DDT released at or from
22 the Point Mugu Naval Base contributed to the injury of the
23 peregrine falcons. This is a narrow issue in a broad case,
24 and it's been addressed in detail in our trial brief, your
25 Honor. I just want to make two points of significance, two

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1 fundamental points, I hope briefly.

2 The first is that the defendants can't show any
3 connection between the Channel Island falcons and the
4 falcons observed at Point Mugu. During this part of the
5 year, several months during the winter, a very small number
6 of falcons have been observed foraging for several years at
7 the Point Mugu military base, but the evidence in this case
8 makes no connection between those very small number of
9 falcons and the falcons at issue in this case, the
10 population on the Channel Islands. In fact, it's not the
11 same group, not the same group of birds.

12 During the winter months, during the last ten
13 years there have been approximately one to three falcons

14 observed on the Point Mugu base, and it's more likely that
15 these falcons are migratory birds that pass through the area
16 during the winter.

17 Secondly, there's no connection established by the
18 evidence that the Court will hear and nothing showing that
19 the Channel Island falcons at any time ingest any prey, any
20 other birds that had ingested any DDT at the Mugu base.

21 Third, there's no evidence that DDT has escaped
22 from the Mugu Lagoon into the ocean in any significant
23 amounts. Indeed, the State's Mussel Watch data establishes
24 that there are no elevated levels outside the Lagoon area in
25 the ocean for DDT. Likewise, the Court will hear no

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1 evidence that any DDT from Mugu traveled the twenty or more
2 miles to the nearest Channel Island.

3 In short, your Honor, the point one is that
4 there's no connection established in the record at this
5 trial, could be no connection established between the
6 falcons observed on the Navy base and the falcons on the
7 Channel Islands.

8 The second point, your Honor, is that even if
9 there were that type of nexus, no causation can be
10 demonstrated. That is, in the law of this case, in order to
11 prove liability for natural resource damages, the defendants
12 have to show that the United States released DDT at the Navy
13 base and that DDT was a substantially contributing cause to
14 the injury of the peregrine falcons out on the Islands. The
15 evidence is insufficient to establish even the most
16 fundamental steps in this causation pathway.

17 For example, defendants' evidence will be
18 insufficient to show when and under what conditions DDT
19 passed, if at any time, to peregrine falcons on the Islands,
20 of what species were involved in this food chain, or where
21 and what location the ingestion or the food chain passed
22 through. In fact, in the statement of facts filed by the
23 defendants in August listing the factual issues presented on
24 the counterclaims, the defendants identified no factual
25 issues for trial with regard to the DDT from Point Mugu and

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1 peregrine falcons.

2 Thirdly, there's an issue with regard -- thirdly,
3 on this point there's an issue with regard to volume. We've

4 heard that the volume -- the evidence will show that the
5 volume, if identified at all, the volume of DDT released at
6 or from the Mugu facility is extremely small. This will
7 contrast very dramatically with the hundreds of tons of DDT
8 which we know has been released from the Montrose facility
9 over a period of many years, and, indeed, the 100 tons of
10 DDT resting on the Palos Verdes Shelf.

11 Likewise, in comparison with the agricultural
12 runoff issue, defendants have made the point that
13 agricultural runoff is in fact a massive source of DDT to
14 the Southern California Bight. And accepting that as true,
15 the releases -- the amounts of DDT released from the Point
16 Mugu base are in fact minuscule.

17 So taken as a whole, your Honor, the evidence will
18 show that neither connection to the Palos Verdes -- in
19 connection between the Mugu Lagoon and the Channel Islands
20 and will not show causation. As a result the United States
21 will be entitled at the end of trial to judgment on the
22 final remaining counterclaim.

23 Thank you.

24 MR. PHILLIPS: Good morning, your Honor. I'm Layn
25 Phillips. I represent the counterdefendant State of

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1 California on the one remaining counterclaim against the
2 State, breach of public trust.

3 As the Court will recall, when it first got
4 involved in this case, at the time the Court was involved
5 there was some fifty counterclaims pending against the
6 State, over fourteen by each of the four defendants in this
7 case. We are now down to one. And the Court will recall
8 from its early involvement in the case that when the Court
9 entered the case in February we were litigating the issue at
10 that time on motions filed by the defendants of whether the
11 State regulated the Palos Verdes Shelf too much. So much
12 so, the defendants claimed, that the State was the owner and
13 the operator of the Palos Verdes Shelf. Those motions of
14 course were rejected by the Court, and now we come full
15 circle.

16 Now we're going to trial on a single claim, namely
17 that the State didn't do enough; the State did not do enough
18 to protect the people of the State of California and these
19 defendants from the pollution that these defendants placed
20 on the Palos Verdes Shelf.

21 I'm going to set aside for just a moment the legal

22 issues and talk about the evidence. I'm going to set aside
23 for just a moment the fact that no court in American
24 jurisprudence has ever awarded damages on such a theory.
25 Under normal circumstances I'd begin my opening

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1 statement, and you would expect Mr. Wolkoff to begin his
2 opening statement by saying, "These are the essential
3 elements of the claim. This is what we must prove." He
4 didn't do that; I won't do that. The reason is that neither
5 he or nor his many colleagues, nor your law clerks, will
6 ever find a case that says, "Here are the essential elements
7 of a breach of public trust claim." So I'm not going to
8 dwell on that, nor am I going to talk any more about the
9 fact that no court had ever said you can get monetary
10 damages for such a claim, because in this case, as you will
11 soon see, the defendants themselves have admitted in their
12 own counterclaim language that they cannot receive monetary
13 relief for this, and they told the Court that the day they
14 filed their answers and counterclaims. And, finally --

15 THE COURT: Isn't the trust of the State just
16 wound up in the principle of *parens patriae*?

17 MR. PHILLIPS: Well, what we do have is we have a
18 clear body of case law on the public trust doctrine which
19 begins in medieval English jurisprudence, and it says that
20 navigation and fisheries and commerce and the water below
21 the lands that are owned by the sovereign have to be
22 protected by the sovereign for the people. And the body of
23 case law that has grown out of that and came into effect in
24 California said that the State must consider the public
25 trust uses in various contexts whenever it makes decisions

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1 involving the public trust. It doesn't say the State has to
2 take one particular use over another.

3 For example, the State could declare a body of
4 water for fishing or commerce and literally destroy its use
5 for purposes of bathing or swimming, but it only is required
6 to consider the various public trust uses, and once it has
7 chosen whether, with the benefit of hindsight, the
8 defendants like the choice or not, once it has chosen as a
9 sovereign, its choice stands because that's what the State
10 does.

11 When it decides to balance the sewage needs of the

12 people of Los Angeles and decides to dispose of those
13 offshore rather than try to dispose of a hundred million
14 gallons of sewage a day onshore when it balances fishing,
15 commercial rights, that's the public trust doctrine that we
16 have. There is no, however, next step -- a breach of public
17 trust that gives rise to monetary damages -- and that's
18 where the defendants are asking you to go, and that's what
19 we're going to tell you you can't do, either on the law or
20 the evidence.

21 So two separate and distinct concepts -- breach of
22 a public trust claim, a monument to their skills as lawyers
23 that have survived this long, and the public trust doctrine,
24 which is a doctrine well-established concerning the
25 consideration that sovereigns must give to various public

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1 trust uses.

2 I do not intend to have a lot of power point
3 presentations. I did bring my one demonstrative. It's a
4 book entitled, All I Really Need to Know I Learned in
5 Kindergarten, and it says that wisdom is not found in law
6 school or graduate school, but it's found in a sand pile, and
7 rule number one is play fair, and rule number two is say
8 you're sorry when you hurt something, and rule number three
9 is the rule that governs the outcome of the breach of public
10 trust counterclaim in this case -- it is clean up your own
11 mess.

12 And in this case the evidence will show, number
13 one, they didn't play fair every day their plant operated,
14 and the reason we have an affirmative defense of unclean
15 hands is locked solid. Every day their plant operated they
16 violated their City of Los Angeles permit, not the County of
17 Los Angeles permit, as Mr. Wolkoff said, but the City of Los
18 Angeles permit. They intentionally put toxic substances in
19 the sewers; they put hydrocarbons in the sewer.

20 The second thing they did, every day their plant
21 operated from 1947 until April 1970 when they were initially
22 cut off from the sewer, and then in June 1971 when they were
23 finally cut off from the sewer, they violated California
24 State statutes. They violated because the statute said you
25 can't put anything into the sewer system that's deleterious

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1 to birds or fish, and their own label said this product is

2 harmful to fish and birds, and yet they are asking the State
3 to bear responsibility for the pollution that they caused.
4 Now, I do want to respond to one comment
5 Mr. Wolkoff made about the topic of responsibility. He did
6 say that on a hearing in August of this year that one of my
7 colleagues, Mr. Gregora, said, quote, "We did not say we
8 bear no responsibility." He was being economical with the
9 facts because that hearing was held on a breach-of-
10 mandatory-duty claim which the Court dismissed and granted
11 summary judgment on two weeks later. Mr. Gregora's comments
12 were that we do in fact owe duties to certain people. We
13 owe duties to the public, but we do not owe duties to the
14 polluters. And he was telling the Court that we are not
15 saying we have no duties.
16 Of course, we are saying in connection with this
17 breach of public trust counterclaim we know we have
18 absolutely no responsibility to these defendants for the
19 pollution that they put on the Palos Verdes Shelf. It's
20 there. The State didn't put it there. The United States
21 didn't put it there. They put it there. And CERCLA is the
22 statute where the fundamental principle is the polluter
23 pays, not the taxpayer pays. If their rule was the law, in
24 every case you have the Government as a liable defendant.
25 Each defendant could say, "Yes I polluted, but you, the

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1 Government, failed to prevent me."
2 That would turn CERCLA and all the environmental
3 statutes on its head. That's why no court has ever awarded
4 damages. That's why no court has ever announced that are
5 central elements to this claim. But the Court will realize
6 in this case from the evidence that the State at all times
7 did take into consideration the very difficult choices that
8 it had to make in balancing the different public trust uses,
9 whether it was for sewage, whether it was for bathing or
10 swimming or fishing or commerce. And that was done even
11 years before environmental protection was recognized by the
12 California Supreme Court in 1971 as a public trust use.
13 First of all, I want to talk about the evidence of
14 the case and specifically what we will prove as the
15 counterdefendant in the case. It is no coincidence, your
16 Honor, that this is a DDT case involving the largest known
17 concentration of DDT contamination on this planet, and it's
18 no coincidence that the DDT contamination is at the end of a
19 sewer system that served for over two decades the world's

20 leading manufacturer of DDT, whose manufacturing plant was
21 only five to ten miles away.

22 It was, as the evidence will show, the defendants,
23 not the State, who manufactured the DDT, marketed the DDT,
24 disposed of the DDT, knew precisely the chemical makeup of
25 the DDT, violated their City of Los Angeles -- not a State

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1 permit, not a County permit, but their City of Los Angeles
2 permit every day they were in operation from 1953 to 1971,
3 violated State law in disposing of their DDT, and profited
4 from its manufacture and sale.

5 If I could have, please, the highlight of the City
6 of Los Angeles permit.

7 Now, your Honor, because we have multiple
8 defendants in this case and because all of the defendants'
9 liability in this case is the deprivative of Montrose, I may
10 use the term Montrose I may use the term "Montrose" and
11 "defendants" interchangeably.

12 First of all, I do want to point out one of the
13 comments made by Mr. Wolkoff. This is a City of Los Angeles
14 permit. Now, this is a counterclaim against the State, and
15 you've heard them during these proceedings use the term
16 "government" generally or "they." To establish a
17 counterclaim against the State, first of all, they have the
18 burden of proof. They have to prove some unlawful conduct
19 by the State. The City of Los Angeles, the LACSD, that's
20 not the State. They were defendants in this case, your
21 Honor. Some of the defendants in this case participated in
22 court-approved settlements, but it's a City of Los Angeles
23 permit, not a State permit.

24 Now, if I could have the next excerpt from the
25 permit. You heard from Mr. Wolkoff about how they had

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1 engaged in lawful discharges. Of course, our evidence will
2 show that they come to court attempting to shift the
3 liability for their own conduct to the State with unclean
4 hands. One of the conditions of their permit said that they
5 were not supposed to discharge any hydrocarbons. But
6 they've admitted in their filings before this Court --
7 indeed, the Court has entered rulings on summary judgment --
8 that DDT is a hydrocarbon. It's in the declarations of
9 multiple witnesses they have.

10 They also had an obligation to discharge no other
11 toxic substances in excess of zero parts per billion. The
12 evidence in this case will show that they've admitted on
13 multiple occasions that DDT is a toxic. Their own label --
14 and I don't think they're going to take the position that
15 the Government made them say something false on their
16 label -- their own label says, "This product," in neon, "may
17 be harmful to fish and birds, and it's a toxin."

18 The Court asked about the magnitude of their
19 discharges when he was talking about their lawful
20 discharges, and so let me just answer the question since I
21 don't think he answered it.

22 The magnitude in this case is staggering. The
23 Court on September 18th, 2000, entered a finding of fact
24 that a Montrose official -- and it was in connection with
25 the State zero allocation CERCLA motion -- that a Montrose

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1 official had admitted ten to fifteen pounds per day into the
2 sewer. Now, if you run the normal ratios of solid
3 suspension removal, and you consider the number of days that
4 the plant was operating north of 300 days a year, and you
5 consider all the years in question, that alone gets you
6 twenty to thirty tons on the Palos Verdes Shelf. But the
7 Court made that finding of fact only as an admission under
8 Rule 801(d)(2)(E).

9 Our evidence in this case will show that the
10 amount of DDT that they discharged on the Palos Verdes Shelf
11 was staggering compared to their admissions. And indeed one
12 of the first witnesses you'll hear is John Redner, who is
13 the witness that the Court relied upon in making that
14 finding of fact. He had a memorandum of a conversation with
15 a Montrose official, and he put the ten to fifteen pounds
16 per day in parentheses, and the reason he did it is because
17 at that time he was conducting an investigation, and he knew
18 that that estimate was, to say it nicely, economical with
19 the truth. He knew that it was a low-ball estimate, because
20 Mr. Redner, who was very low in the pecking order at the
21 LACSD at that time, but is now very high in the pecking
22 order, was conducting an investigation.

23 And right after April of 1970, when Montrose was
24 cut off from the sewer, they began to look at two things:
25 how much DDT, after they were cut off from the sewer, was no

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1 longer coming into the LACSD joint water pollution control
2 pen, several hundred pounds per day, immediately change as
3 soon as they were cut off.

4 They also tested by another method. Montrose from
5 April 1970 to June 1971 began trucking the DDT to the Palos
6 Verdes landfill. Mr. Redner and some of his colleagues
7 showed up one day. They tested the DDT that was being sent
8 to the Palos Verdes landfill -- several hundred pounds per
9 day. Montrose was not discharging, as they've admitted, ten
10 to fifteen pounds per day; they were discharging huge
11 staggering amounts of DDT unlawfully which contained toxic
12 substance, which contained hydrocarbons into the sewer every
13 day, month after month, year after year, decade after decade
14 from 1953 -- 1947 on. That is why they have no case on
15 breach of public trust because they come to court with
16 unclean hands.

17 Now separate and apart from their violation of the
18 City of Los Angeles permit, they violated the State
19 provisions that I've told the Court about, the California
20 State statute. And they weren't disclosing this to the
21 State. You'll not hear a single Montrose official in the
22 state take the stand and say, "We told the State all about
23 our discharges."

24 Indeed, how were these discharges discovered? Not
25 because Montrose disclosed them. They were discovered

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1 because the Los Angeles County Sanitation District began an
2 investigation. Mr. Redner will tell you that it's no rocket
3 science that they ultimately discovered that the world's
4 largest manufacturer of DDT several miles away turned out to
5 be the primary source of the DDT discharges, but they had to
6 conduct an investigation. And they did. And they conducted
7 this investigation in 1969. And in 1970 they concluded the
8 investigation and they realized that there was this nexus
9 between these DDT discharges and this huge manufacturing
10 facility only a few miles away, and they did a number of
11 things at that stage.

12 One of the things that they did was the State
13 conducted simultaneous testing because the State became
14 involved. As the Court may know, the State is, of course, a
15 different legal entity from the County, and the Los Angeles
16 County Sanitation District is a County agency. The State,
17 under State law, cannot tell LACSD specifically how to

18 remedy a situation. There's a Water Code section. It's
19 13064 of the State Water Code, and it says that the State
20 can order that certain issues be corrected, but it can't say
21 how to do it.

22 The State, once it learned that, number one, there
23 was DDT in the sewer and, number two, the discharges had a
24 nexus to Montrose, moved swiftly to terminate Montrose's
25 access to the sewer. So contrary to their claim that the

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1 State somehow breached its public trust, we say two things:
2 Number one, you've come to court with unclean hands; and,
3 number two, the State did move swiftly to cut you off from
4 the sewer once we learned of your unlawful, undisclosed
5 discharges.

6 And finally we say that the State always took into
7 consideration these difficult public trust issues in
8 balancing the needs of sewage in Los Angeles with commercial
9 fishing, navigation, et cetera.

10 Now, one of the -- At the conclusion of the case
11 we hope that we establish two key points legally and two key
12 points factually.

13 Legally we hope to convince the Court -- and we
14 expect to do it as soon as their counterclaim case in chief
15 is presented -- that there is no such thing as a claim for
16 monetary damages on breach of public trust. And we'll point
17 out to you that they had this right early on in the lawsuit
18 because Montrose, in paragraph 103 of their counterclaim,
19 and Adventis and Atkemis -- that's three of the four
20 defendants who've been found liable under CERCLA -- two
21 offshore, one onshore -- in paragraph 81 both said this, and
22 this is a direct quote, "Montrose has been injured by the
23 State's breach of its trust obligations. Such injury
24 cannot" -- their word -- "cannot be compensated or remedied
25 by payment of money damages, but rather only by issuance of

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1 declaratory or injunctive relief." Cannot be compensated by
2 monetary damages. Remedied only by issuance of declaratory
3 or injunctive relief. Now, that was their words, and they
4 had it right early on. Only Chris-Craft has even attempted
5 to preserve a claim for monetary damages.

6 The reason we think it's clear, aside from the
7 fact that no court has ever even said that there are -- a

8 damage action available in this case, we have the doctrine
9 of unclean hands. But finally we have the public trust body
10 of law in the State of California that says that the public
11 trust duties are owed to the public generally, not to a
12 particular person or party. In other words, if the
13 defendants in this case were allowed, as members of the
14 general public -- and this is their words -- they say
15 they're suing on behalf of the general public to collect
16 damages, it would mean that the public, the purported class
17 here, loses three ways.

18 The first way they lose is the waters have been
19 polluted as a result of their violations. The second way
20 the public loses is that the defendants would be pursuing a
21 claim for monetary damages on behalf of the general public,
22 but they get to collect it; the public gets nothing. The
23 third way that they lose it is that the public, under their
24 theory, ends up having to pay for the cleanup themselves
25 because they want to shift the liability to the State. So

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1 the public loses by having their waters polluted, by letting
2 them collect the damages, and finally by having to pay for
3 the cleanup in the end. That would be regulatory
4 cuckoo-land, and that's why no claim has ever gotten this
5 far.

6 I finally want to mention that with respect to
7 obstacles in this case that counsel have mentioned some of
8 the rulings that pose obstacles either to the Government or
9 other parties, and I want to mention just briefly some
10 obstacles that the defendants face. The first obstacle from
11 an evidentiary standpoint they face -- and this is something
12 the Court will hear about -- is all of this was unnecessary.
13 You asked why did it take ten years. Well, the answer to
14 that is we didn't have you. It took six years for them to
15 conduct discovery of us, and we got six weeks, and we're
16 ready to go. But the reason it took longer than ten years
17 is because, not only did they not disclose what they were
18 doing, but it took longer than ten years because this is a
19 case -- it took longer than ten years because this is a case
20 where they could have avoided this completely and
21 inexpensively.

22 We have an appropriations request by them. It's
23 dated in 1970. And for \$50,000, and in less than one year,
24 they converted, in 1970 to 1971, their entire facility to a
25 full water recycling, eliminating entirely DDT discharges

1 into the sewer, entirely.

2 When Mr. Redner gets on the stand, ask him how
3 many hundreds of millions of dollars it took to provide
4 secondary treatment to the Los Angeles County Sanitation
5 District. And, remember, L.A. County Sanitation District's
6 treatment only removes about 40 percent of the pollution.
7 They had the ability not only to do it, but they did it in
8 one year. And when you say, why did it take ten years, we
9 say, why wasn't this cured in 1953, the year after I was
10 born. That's why we shouldn't be here today.

11 And when we talk about the relative equities in
12 this case about what the State could have done, we should
13 ask not only what they could have done, but what they did
14 because in less than a year they took those steps.

15 Obstacles: Obstacle number one is that there is a
16 published opinion in this case. It's before you came to the
17 party and I came to the party, but it's an opinion at 788
18 Fed.Supp. 1495, and Judge Hauk wrote the opinion in the
19 case, and it's been the law of the case for some time. And
20 it sets forth in detail a discussion of the counterclaim
21 issues in this case, and it says the following: It says
22 they cannot obtain affirmative relief. Cannot obtain
23 affirmative relief. It says they cannot obtain injunction
24 relief. It says they cannot obtain attorney fees in the
25 case. They cannot -- They can only obtain the mirror image

1 in a case against the sovereign of what the sovereign is
2 seeking against them. However, when it comes to a
3 counterclaim of this nature, breach of public trust, they
4 can't even obtain monetary damages. And that is why in
5 their counterclaim when they first filed it, they recognized
6 it and admitted that they couldn't obtain monetary damages.

7 The second obstacle they face is your Honor has
8 already dismissed, granted summary judgment on the breach of
9 public trust counterclaim against the United States. You
10 did that and on that day in September of 2000 when you did
11 it, you entered findings of fact. One of the findings of
12 fact that you entered is that they have shown and came
13 forward with, and had no allegation of injury to their
14 business or person or property in their contentions of fact.
15 They still have not.

16 But the next -- And the State, of course, is also
17 a sovereign like the United States, and we are going to
18 establish exactly what was established in connection with
19 that one claim. The Court may recall, the way the
20 counterclaim came to trial is on September the 18th you
21 granted the State's motion for summary judgment with respect
22 to all remaining claims, but carved out this one claim.
23 Finally, another obstacle that the defendants face
24 in this case is explaining to the Court what avenue of
25 relief is available. They have in this case no ability to

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1 obtain injunctive relief, no ability to obtain monetary
2 damages, no ability to obtain declaratory relief because
3 when you look in the final Pretrial Order which is the bible
4 for this case, they have a category that says declaratory
5 relief. They list no declaratory relief for the breach of
6 public trust counterclaim in this case.
7 They can't get attorney fees. We know from the
8 Court's April 17th and June 3rd rulings they can't get
9 recoupment, indemnity or equitable contribution. So if they
10 can't get affirmative relief, monetary relief, injunctive
11 relief, recoupment, indemnity, contribution, what is left?
12 And the answer, your Honor, is nothing.
13 Thank you.
14 THE COURT: Mr. Wolkoff, do you wish to respond or
15 any of the defendants wish to respond?
16 MR. ALLEN: Your Honor --
17 THE COURT: The reason I ask that is because I
18 believe, at least the law to me is clear -- the Ninth
19 Circuit sometimes doesn't agree with me, and when it does I
20 look again because I might be wrong -- that I can grant a
21 judgment on this issue to the State based upon the opening
22 statements.
23 MR. ALLEN: Well, your Honor, I don't think that
24 it's appropriate at this juncture of the case to grant
25 relief on the basis of the opening statement for a number of

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1 reasons.
2 First of all, one of the very important factors
3 that Mr. Layn Phillips left off of his list in terms of
4 relief that's available to the defendants is an offset.
5 What the State has said here is that it is the trustee for

6 these resources and, my goodness, these resources have been
7 injured by these defendants. But at the same time Mr.
8 Phillips has said, "Your Honor, in administering the trust,
9 we, as the State, can make a decision as to how we're going
10 to allow those trust resources to be used, and we can
11 balance the need for public sewage against impact to marine
12 and other aquatic resources, and that's our decision to
13 make."

14 Well, your Honor, we would suggest to you that the
15 State can't have it both ways. They can't come against the
16 defendants and contend that the defendants have caused
17 injury to a trust that's been entrusted to the State's care
18 and then turn around at the same time and say, "Oh, but you
19 know what, we made the decision that it was okay to injure
20 these resources, so there's no claim against us."

21 Your Honor, we believe that the public trust
22 claims that we have here can be used by way of offset to
23 defeat the State's claims against the defendants for injury
24 to the trust.

25 THE COURT: Offset, as you describe it, means

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1 money damages, doesn't it?

2 MR. ALLEN: Well, no, your Honor, because
3 you're --

4 THE COURT: How do you get an offset without
5 coming up to some money damages?

6 MR. ALLEN: Because, your Honor, you can simply do
7 it in the nature of an allocation. You can say the State is
8 responsible for some percentage of the injury that is
9 attributable to the claims made in this case, and,
10 therefore, their claims against the defendants are reduced
11 by that amount.

12 THE COURT: That would be a matter of defense, not
13 of a counterclaim.

14 MR. ALLEN: Well, your Honor, we believe we could
15 appropriately plead it, both as a matter of counterclaim or
16 defense.

17 May I make one other point?

18 THE COURT: Yes.

19 MR. ALLEN: Mr. Phillips spent a lot of time
20 talking about violations of permits issued by L.A. City, and
21 he referenced the hydrocarbons. Your Honor, DDT is not a
22 hydrocarbon. It's not oil, which is what that provision
23 went to. And it's simply incorrect to characterize DDT as a

24 hydrocarbon, and I think the evidence will show that the
25 allegation that Montrose violated that provision of its

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1 permit is completely inappropriate.

2 But, your Honor, I believe that the issue here,
3 and the essence of our counterclaim here, is that to the
4 extent that the State is able to demonstrate that there were
5 injuries caused to natural resources, we are entitled to put
6 on evidence and to affirmatively establish that those claims
7 against the defendants ought to be reduced by the amount by
8 which the State is found to be at fault for being the
9 architect of its own injuries here.

10 THE COURT: All right. I'm going to give the
11 defendants probably to Thursday, the 21st, to get me a
12 memorandum, and I am going to reserve the question of
13 entering judgment based upon the opening statements.

14 MR. PHILLIPS: Your Honor, may I then informally
15 for the record pursuant to Rule 52(c) make a request that
16 they have been heard as a matter of law; that they made no
17 outline of what the essential elements were or what evidence
18 they would present. Moreover, there are motions in limine
19 that would directly knock these issues out on a
20 discretionary basis that are pending before the Court; and
21 that having been fully heard on those motions in limine and
22 the opening statements under Rule 52(c) that we request
23 judgment as a matter of law.

24 We also request judgment as a matter of law
25 because Mr. Allen and Mr. Wolkoff will admit, under the

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1 Court's June 26th order, they had to submit any expert
2 affidavits or fact affidavits in support of any witnesses in
3 support of this claim. They could not, under Rule 103(a)(2)
4 of the Federal Rules of Evidence, make a proffer to you
5 right now of a single affidavit they have submitted on the
6 breach of trust counterclaim. And the reason is there is
7 none. So they don't have any evidence. I think, after the
8 Court's rules on the motions in limine, they're not going to
9 have any exhibits, and we already know they don't have any
10 relief, and that's why it should be granted.

11 MR. ALLEN: Your Honor, may I be heard?

12 THE COURT: You get your memo to me.

13 MR. ALLEN: Oh, thank you very much, your Honor.

14 THE COURT: All right. I guess we can start with
15 the witnesses.
16 MR. ALLEN: Excuse me, your Honor. One point of
17 clarification. Thursday is the 19th, and you said the 21st.
18 THE COURT: Thursday is the 21st -- at least
19 according -- I'm sorry, I'm sorry. I'm in the wrong month.
20 They haven't taken September off of here yet.
21 MR. ALLEN: I'll take the later month.
22 THE COURT: No, it's the 19th.
23 MR. ALLEN: The 19th, your Honor.
24 THE COURT: Yes. Thank you.
25 MR. GALVANI: Your Honor, before we begin, may I

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1 request that under Rule 615 all fact witnesses be excluded
2 from the courtroom, not experts and not representatives of
3 the parties, but fact witnesses.
4 THE COURT: All witnesses who are not experts or
5 members of the teams that are here are excluded from the
6 courtroom until your testimony has been completed. When
7 your testimony has been completed, you are admonished not to
8 discuss your testimony with any other witness until all of
9 the testimony has been completed.
10 That's whether you're here for the defendants or
11 for the plaintiffs or whether you're here by subpoena or
12 voluntarily, you are excluded from the courtroom. And
13 counsel are admonished to maintain the admonition of the
14 Court with reference to witnesses because I can't tell who
15 is and who is not a fact witness by just looking at him.
16 MR. McNULTY: Your Honor, could I ask one point of
17 clarification? Some of the fact witnesses that we have are
18 also our agents' and clients' representatives. Do you want
19 them out?
20 MR. LYTZ: Your Honor, Karl Lytz. One question
21 with respect to Montrose's president, Mr. Frank Bachman. He
22 has been excluded as a fact witness in the case. He did
23 receive a subpoena to appear as a custodian of records. May
24 he attend the sessions in light of the limited nature of his
25 appearance?

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1 MR. WOLKOFF: Your Honor, he's representative of
2 Montrose, he's a party, so I believe he's entitled under the
3 rules to be here during the course of the trial.

4 MR. O'ROURKE: We don't oppose that.
5 THE COURT: All right.
6 MR. WOLKOFF: Thanks.
7 MR. GALVANI: Your Honor, that would true for each
8 of the parties since Joseph Kelly is here for my clients,
9 and Brian Kelly for Chris-Craft?
10 THE COURT: Yes.
11 MR. O'ROURKE: That's fine. As far as I can tell
12 our fact witnesses are gone, with the exception of the one
13 I'm going to call first.
14 Before I call any live witnesses, the plaintiffs
15 do want to move in some designated deposition transcripts.
16 There are eleven of them. The portions have been designated
17 by us. Counter-designations have been marked by the
18 defendants. Both sides have objected to the other side's
19 designations, to the extent they felt it was appropriate.
20 And due to the number of witnesses in the cases, we would
21 propose that we just move the depositions in without reading
22 them and without taking the Court's time on that.
23 THE COURT: Any objection to that?
24 MR. RAUSHENBUSH: Your Honor, this is Rich
25 Raushenbush for the defense. We have no objections to doing

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1 that, understood that our objections are written in the
2 margins of the transcripts.
3 THE COURT: Yes, and my rulings will be made in
4 the margins.
5 MR. RAUSHENBUSH: Thank you, your Honor.
6 MR. O'ROURKE: Your Honor, we also have no
7 objection to all the deposition testimony from both sides
8 being --
9 THE COURT: Those have to be given to the clerk,
10 also.
11 MR. O'ROURKE: Yes, sir. We have the originals,
12 and I could hand him a copy. We would also propose,
13 instead, that the deposition testimony be accepted into
14 evidence, objections simply going to weight, as an
15 alternative.
16 THE COURT: I'm sorry, I didn't hear the last.
17 MR. O'ROURKE: We would propose the deposition
18 testimony be accepted into evidence with the objections that
19 are handwritten in going simply to the weight to be given to
20 the evidence, just so we know what's in evidence when the
21 trial closes.

22 THE COURT: As to those objections that are
23 overruled they will go into evidence. As to those that are
24 sustained in the margins, they are excluded.
25 MR. O'ROURKE: Thank you, your Honor.

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1 And our first live witness is Mr. Steven
2 Simanonok.
3 THE CLERK: Please come forward.
4 Please raise your right hand.
5 STEVEN SIMANONOK, PLAINTIFFS' WITNESS, SWORN
6 THE CLERK: Please be seated.
7 For the record, sir, would you please state your
8 full name and spell your last name.
9 THE WITNESS: It's Steven Simanonok,
10 S-i-m-a-n-o-n-o-k.
11 DIRECT EXAMINATION
12 BY MR. O'ROURKE:
13 Q. Mr. Simanonok, where do you work?
14 A. With the United States Environmental Protection Agency.
15 Q. And how long have you been working there?
16 A. Since 1977.
17 Q. And what is your current position there?
18 A. Currently I'm a Brownfields Coordinator.
19 Q. Have you ever had any occasion to visit the Montrose
20 plant on Normandie Avenue?
21 A. Yes, I have. I've been there on at least four
22 occasions.
23 Q. And when was your first visit there?
24 A. I believe in 1980. I performed a RCRA hazardous waste
25 compliance inspection.

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1 Q. And on the easel next to you is a photograph. Do you
2 recognize that photograph?
3 A. Yes, I do.
4 Q. What is it a picture of?
5 A. This is -- Well, a much earlier version of the Montrose
6 Chemical Company facility.
7 Q. And how do you know what this picture is of?
8 A. Well, I actually obtained this photograph from archives
9 at the University of California, Santa Barbara. I
10 recognize -- Let me figure this out.
11 Normandie Avenue here, the configuration of the

12 train tracks going into the Montrose Chemical plant. The
13 entrance to the facility here across the railroad tracks on
14 Normandie Avenue. This is actually up in the far right
15 corner, a picture of a piece of the McDonnell Douglas
16 Aircraft plant to the north.
17 Q. When you pointed to the entrance, is that how you
18 personally entered when you visited the plant?
19 A. Yes. Yeah, the entrance has always been here on the
20 north.
21 Q. Now, with reference to Exhibit Number 4386 --
22 I would ask that be handed to the witness.
23 (Joint Exhibit 4386 marked.)
24 Do you recognize Exhibit Number 4386?
25 A. Yes, I do.

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1 Q. What is that?
2 A. That's a list of photographs that I collected at the
3 University of California.
4 Q. And is this a blowup from those photographs?
5 A. Yes, this is one of the negatives.
6 Q. When was the second time you visited the plant?
7 A. In 1981 I accompanied the California Department of
8 Health Services on an abandoned -- it was under their
9 Abandoned Site Program investigation.
10 Q. Okay. And I'm going to refer you next to Exhibit 4069,
11 if you want to flip to that page of your notebook.
12 (Joint Exhibit 4069 marked.)
13 A. I have it.
14 Q. Do you recognize Exhibit 4069?
15 A. Yes. This is a copy of Montrose Chemical Corporation's
16 Foreign Product Export labeling.
17 Q. And referring to the blowup, the demonstrative exhibit,
18 do you recognize that?
19 A. Yes. It's a copy of the same document.
20 Q. How do you know what this is?
21 A. Well, I recognize it because it has their EPA file
22 stamp here.
23 Q. And where did you obtain it?
24 A. I received it from John Kallok, the plant manager at
25 Montrose Chemical Company.

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1 Q. Do you see the line stating "Do not contaminate any

2 body of water"?
3 A. Yes. It says, "Keep out of any body of water. Do not
4 contaminate water by cleaning of equipment or disposal of
5 wastes."
6 Q. Do you have any knowledge about whether Montrose ever
7 contaminated any water with DDT?
8 A. Only on a later visit.
9 Q. It was on your third visit?
10 A. Yes.
11 Q. And what was the purpose of that visit?
12 A. That was later in 1982, towards the end of 1982. We
13 had received information from California State Department of
14 Fish and Games Mussel Watch Program that suggested there
15 were recent inputs of fresh DDT into Los Angeles Harbor, at
16 which point I assembled a small team of technicians to
17 sample the stormwater coming from the southeast corner of
18 the Montrose property.
19 Q. And what was the purpose of this team?
20 A. Well, there was both the Mussel Watch data and
21 downstream monitoring data that suggested there were fresh
22 inputs of DDT in the stormwater runoff coming from the
23 Montrose plant.
24 Q. Now referring to the exhibit that Miss Jennings just
25 put up, do you know what that is? Do you recognize that

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1 map?
2 A. This is a schematic showing Montrose Chemical and the
3 surrounding area.
4 Q. Can you show us on this map the areas that you and your
5 team sampled?
6 A. Well, on the first day we sampled stormwater discharge.
7 It was actually the first rainwater of the fall coming off
8 the plant. We sampled right here at the southeast corner of
9 the Montrose property, along the railroad tracks running to
10 Farmer Brothers Coffee.
11 The stormwater discharge overflowed a curb at the
12 Farmer Brothers Coffee plant, ran across their parking lot
13 and entered a storm drain approximately right there.
14 Q. And did you see the water flowing that way yourself?
15 A. Yes.
16 Q. And what did you do with the samples that you took that
17 day?
18 A. Well, we also collected several more samples downstream
19 of the facility.

20 Q. Can you show us those locations?
21 A. Right here where the storm drain exits into what's
22 called the Torrance Lateral and farther downstream as well.
23 All of the samples were labeled, packaged and shipped under
24 a chain of custody to an EPA contract laboratory.
25 Q. Could you refer, please, to Exhibit 4094 in your

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1 notebook.
2 (Joint Exhibit 4094 marked.)
3 A. Yes, I have it.
4 Q. What is this document?
5 A. This is actually a copy of my investigation report.
6 Q. And did you prepare this report as part of your normal
7 duties at EPA?
8 A. Yes, I did.
9 Q. Did you make it near the time of the inspection?
10 A. As soon as we obtained all the laboratory analysis and
11 the quality assurance data.
12 Q. Did you attempt to make the document accurate?
13 A. Yes, I did.
14 Q. What were the results of the samples that you got back
15 from the laboratory?
16 A. Well, the water samples -- in fact, every water sample
17 taken that day from the Montrose plant and below the
18 Montrose plant showed DDT in concentrations of hundreds of
19 parts per billion.
20 Q. If you could flip to the end of that same exhibit,
21 Exhibit Number 4094 --
22 A. Yes.
23 Q. -- there's some blue pages there. Could you look at
24 the page marked 22.
25 A. Yes. These are photographs that I took on that day.

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1 Q. What is the top photograph a photograph of?
2 A. It says a view to south along the railroad tracks,
3 discharge flowing from Montrose ditch to Farmer Brothers
4 Coffee.
5 Q. Is that the ditch in which you sampled?
6 A. Yes, it is.
7 Q. Did you ever return for any other visits to the
8 Montrose plant?
9 A. Well, the following day we obtained soil samples along

10 the same discharge pathway.
11 Q. What did you do with those samples?
12 A. They were also sent to an EPA contract laboratory.
13 Q. And what were the results of those samples?
14 A. Those showed -- In fact, every soil sample collected
15 below along the surface discharge pathway showed DDT and its
16 metabolites in the hundreds of parts per million range --
17 I'm sorry -- the thousands of parts per million range.
18 Q. Did you ever return to the plant for any reason after
19 that?
20 A. Yes. That would have been on my last visit to the
21 plant. The plant property had already been demolished. And
22 I interviewed Mr. John Kallok on a trailer located on the
23 paved property.
24 Q. Did you take any notes of that interview?
25 A. Yes. I took notes of the interview, wrote up a draft,

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1 and I mailed them to Mr. Kallok for his corrections.
2 Q. Could you refer to Exhibit 4079.
3 (Joint Exhibit 4079 marked.)
4 A. Yes, I have it.
5 Q. Is that --- Do you recognize that exhibit?
6 A. Yes, I do.
7 Q. What is it?
8 A. Well, this is both my transmittal and marked-up copy of
9 my report of interview with Mr. Kallok.
10 Q. And now if you could refer to Exhibit 4051.
11 (Joint Exhibit 4051 marked.)
12 A. Yes, I have it.
13 Q. Do you recognize that exhibit?
14 A. Yes. This is a copy of a memo that I obtained from
15 archives -- either the Los Angeles Bureau of Sanitation or
16 the Los Angeles County Sanitation Districts.
17 Q. Could you refer to the second paragraph of this
18 memorandum.
19 A. Yes, sir. Beginning with "Rainwater"?
20 Q. Could you read the entire paragraph.
21 A. It says, "Rainwater and Dickey obtained two samples" --
22 I'm sorry. This is a memo dated February 24th, 1953.
23 Rainwater and Dickey obtained two samples of
24 strongly acid waste on February 20th, 1953, and inspected
25 the plant area. One sample was obtained from discharge into

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1 open field drain at Florence Drive and Maple Street. The
2 other sample was from stream outflow at the southeast fence
3 boundary RR" -- I'm assuming that's railroad trackage area.
4 Q. The reference to Florence Drive and Maple Street, do
5 you know where that is?
6 A. Yes, I do.
7 Q. Where is that located?
8 A. Florence Drive was renamed Kenwood Drive and Maple
9 Street is now 204th Street.
10 Q. Could you show that intersection on the diagram?
11 A. That's right there.
12 Q. How do you know that those streets changed names?
13 A. Actually I had done title searches on several blocks of
14 properties on 204th Street, and in those title documents to
15 those properties I see the name change.
16 Q. Thank you very much.
17 And with that, your Honor, I would move in --
18 Actually, I'm sorry. Forgive me.
19 Did you sign a direct testimony affidavit?
20 A. Yes, I did.
21 Q. Is it included in front of your notebook?
22 A. Yes, it is.
23 Q. And did you also execute an errata sheet?
24 A. Yes. I believe there were four items I corrected on my
25 affidavit on the errata sheet.

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1 Q. Given --
2 MR. LYTZ: Your Honor, object to the answer of the
3 affidavit on the grounds of hearsay.
4 THE COURT: The written testimony?
5 MR. O'ROURKE: I was going to ask him.
6 BY MR. O'ROURKE:
7 Q. Is the affidavit with the corrections and the errata
8 true and accurate to the best of your knowledge?
9 A. Yes, it is.
10 MR. O'ROURKE: With that I would move his
11 testimony in.
12 MR. GALVANI: Your Honor, on behalf of Aventis and
13 Atkemis I would object on the grounds that it's irrelevant.
14 Your Honor has already found my clients liable with respect
15 to the property site itself. And as for any offsite
16 property any evidence of off-site investigation, that seems
17 to be irrelevant and hearsay, as well.

18 THE COURT: That's overruled. The direct
19 testimony of the EPA fact witness Steven Simanonok is
20 received.
21 MR. O'ROURKE: Your Honor, we would also -- I
22 don't know whether I have to move in the exhibits to which
23 he cites as well or --
24 THE COURT: Those exhibits that are referred to in
25 that are in evidence.

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1 (Joint Exhibits 4069, 4079, 4094 and 4386 received.)
2 MR. O'ROURKE: Thank you very much, your Honor.
3 With that the direct is finished.
4 THE COURT: Cross-examination?
5 MR. LYTZ: Yes, your Honor.
6 CROSS-EXAMINATION
7 BY MR. LYTZ:
8 Q. Mr. Simanonok, you conducted your sampling of the
9 surface water drainageways in the vicinity of the Montrose
10 plant about eighteen years ago; is that correct? Was the
11 date November 9th, 1982, sir?
12 A. Yes, it was.
13 Q. And all of the sampling that you did on the surface
14 water drainage way was conducted on a single day; isn't that
15 correct?
16 A. The surface water was all collected in one day;
17 correct.
18 Q. I've placed on the screen here one of the pages out of
19 your report. Do you recognize the flowpath here, sir?
20 A. Yes, that's my drawing.
21 Q. You put several points along the way. You collected
22 about two samples here at Location Number 1 1; is that
23 correct, sir?
24 A. May I look at my report just to refresh --
25 Q. Please do.

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1 A. Yes. Duplicate samples were collected at Location
2 Number 1 1.
3 Q. So basically one sample. You took two samples at one
4 location; correct, sir?
5 A. Yes.
6 Q. And then at Number 2, at Location Number 2, you took a
7 single sample there; is that correct?

8 A. Yes, it is.
9 Q. And then down at Location Number 3, close to the catch
10 basin of the Farmer Brothers drain you took three samples
11 there; is that correct, sir?
12 A. Yes.
13 Q. When you were there on November 9th of 1982 had water
14 ponded down here in the vicinity of the Farmer Brothers
15 plant?
16 A. Yes, it had.
17 Q. The water had to rise up to a level of several inches
18 before it would flow through the curb; is that not correct,
19 sir?
20 A. Yes, it is.
21 Q. This is also taken from your report? Do you recognize
22 this figure as representing the flow pathway from the
23 Montrose plant out to the Dominguez Channel?
24 A. Yes, it is.
25 Q. When the water lead went from the catch basin it flowed

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1 into an area called the Kenwood drain; is that not correct,
2 sir?
3 A. Yes.
4 Q. That's an underground drainage way now that runs about
5 three quarters of a mile through this neighborhood; correct?
6 A. I don't have the exact distance here, but that sounds
7 about right.
8 Q. When was the Kenwood drain constructed?
9 A. Well, there were different sections constructed over
10 different periods of time.
11 Q. Had any portion of the Kenwood drain been constructed
12 in 1953?
13 A. I believe that was an open ditch in 1953.
14 Q. So that, as you were reading earlier from one of the
15 exhibits, you were talking about evidence of water being
16 present in the Kenwood ditch in 1953, that would be evidence
17 that doesn't relate to the areas that you conducted any
18 sampling in; correct?
19 A. My understanding is the drain that's now shown going
20 down Kenwood Avenue was underground by the Flood Control
21 Districts again sometime subsequent to 1953, but before my
22 sampling in 1982.
23 Q. So what you sampled then in this area had nothing to do
24 with what was sampled in 1953. That was not a structure
25 that you dealt with; isn't that correct, sir?

- 1 A. Correct. The 1953 structure would have subsequently
2 been undergrounded.
- 3 Q. The stormwater flow into this -- The Kenwood drain is
4 an underground conduit, is it not?
- 5 A. Yes, it is.
- 6 Q. It collects stormwater that also flows into that
7 drainage way from the neighborhoods, doesn't it?
- 8 A. Yes. There's many catch basins that input into the
9 Kenwood drain.
- 10 Q. You took one sample at the Kenwood drain; is that not
11 correct, here at Location 5?
- 12 A. Yes, I did.
- 13 Q. You took no samples of any stormwater entering into the
14 Kenwood drain between the Montrose site and the point at
15 which you took the sample about three quarters of a mile
16 away.
- 17 A. No. That would have required opening a manhole and
18 entering underground drainage structures during the
19 stormwater event.
- 20 Q. You didn't take any samples of stormwater running into
21 the drain from the neighborhood areas at their surface
22 street level entries as you had done at the Farmer Brothers
23 catch basin, for example?
- 24 A. No, I did not.
- 25 Q. So you don't know whether or not any DDT contained in

- 1 the soils in this neighborhood was introduced into the
2 surface --- into the Kenwood drain downstream of the
3 Montrose point, do you, sir?
- 4 A. No, I do not.
- 5 Q. Similarly, the Kenwood drain has other influent
6 portions that run in. You did no sampling of this areas
7 either, did you, sir?
- 8 A. No, sir.
- 9 Q. The Kenwood drain comes into the Torrance Lateral. You
10 found a significantly lower concentration of DDT in the one
11 sample that you took here at Location 5, did you not,
12 Mr. Simanonok?
- 13 A. Yes, I did. Oh, I'm sorry, no. Location Number 5
14 total DDT actually appears greater than the upstream
15 locations.

16 Q. Even greater than it was up here at the Farmer Brothers
17 site.
18 A. Yes.
19 Q. So the downstream location for Montrose had a higher
20 concentration than did the concentration in stormwater at
21 the site itself; isn't that correct, sir?
22 A. Yes.
23 Q. Did you do any sampling -- the Kenwood drain --
24 A. Oh, I'm sorry. I'm not reading my own report
25 accurately here. Location up closest to the site actually

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1 are all hundreds of parts per billion, and when I get to
2 Location Number 5, I'm only down to seventeen parts per
3 billion.
4 Q. So this is getting messy now, and is reversed. This is
5 significantly lower at Station 5?
6 A. It would be the highest closest to the site, and then
7 at each downstream location appears to decrease, but the
8 numbers jump around because you're not all sampling the
9 exact rainwater as you move downstream.
10 Q. There are other sources that are flowing into that as
11 you go downstream; isn't that correct?
12 A. Yes.
13 Q. And you did not sample any of the other sources that
14 were influent into the Kenwood drain downstream of the
15 Montrose plant.
16 A. Only that those inputs would be represented at location
17 5 as downstream of those.
18 Q. Location 5 is where the Kenwood drain flows into the
19 Torrance Lateral; isn't that correct, sir?
20 A. Actually, no. All of 685 there is -- May I?
21 Q. Yes, please.
22 A. No, it's just not coming out. Here we are. I think
23 I'm losing my batteries here.
24 If you see there's a southern section that's
25 highlighted in yellow there, part of 685, that whole section

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1 is considered still the Torrance Lateral.
2 Q. Oh, yes, I see. This is -- You're saying this is the
3 Torrance Lateral here.
4 A. The Torrance Lateral actually has some feeder systems
5 here and daylight along here, I believe, and then comes out.

6 So this whole segment is considered the Torrance Lateral in
7 flood control maps, and then the Kenwood Avenue drain is one
8 input to the Torrance Lateral.
9 Q. So you have one sample here. Did you take any other
10 samples on November 9th, 1982, in the Torrance Lateral?
11 A. It's Location Number 1 6 is still considered, I
12 believe. Location Number 6 I also obtained a water sample.
13 Q. That sample was broken in transit, however, wasn't it?
14 A. Yes, it was.
15 Q. So in the entire length of the Torrance Lateral you
16 took -- only had analytic results from your sampling of that
17 at one station; isn't that correct, sir?
18 A. Yes, it is.
19 Q. The Torrance Lateral flows into the Dominguez Channel;
20 is that correct?
21 A. Yes.
22 Q. Did you take any samples on November 9th, 1982, in the
23 Dominguez Channel?
24 A. No, I did not.
25 Q. The Dominguez Channel flows into the consolidated slip;

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1 is that correct, sir?
2 A. Yes.
3 Q. You took on November 9th, 1982, no samples in the
4 consolidated slip?
5 A. No, I did not.
6 Q. So the entirety of your investigation on November 9th,
7 1982, consisted of a single sample taken downstream of the
8 Montrose plant -- Let me restate that.
9 You had only one sample that was taken between the
10 catch basin at the Farmer Brothers area and the consolidated
11 slip; isn't that correct, sir?
12 A. Yes, it is.
13 Q. You don't know whether or not the DDT that you detected
14 in the sample station -- at the sample location on the
15 Torrance Lateral, you don't know whether that came from the
16 Montrose site or not, do you?
17 A. If one looks at the ratio of DDT it suggests a fresh
18 input of new product.
19 Q. Did you take any upgradient, upstream samples,
20 Mr. Simanonok, at all?
21 A. There is no upstream for the Montrose site. It's
22 stormwater runoff. The stream begins at the Montrose
23 site -- we've both called it the Jones ditch, but there is

24 no upstream location for the channel that originates within
25 the Montrose property.

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1 Q. But there's clearly an upstream location sampling area
2 within the Torrance Lateral upstream of where you took your
3 sample; this is all upstream of the location, is it not,
4 sir?

5 A. I'm sorry, that's downstream.

6 Q. But upstream you took no samples up here in this
7 location; is that correct?

8 A. Correct.

9 Q. And so you don't know whether or not the concentration
10 that you observed here came from the plant; you don't know
11 what the background was in the Torrance Lateral itself, do
12 you?

13 A. The measurement at Location 5 is representative of
14 the -- was measured at 17 parts per billion.

15 Q. Yes, sir; but you don't know where that concentration
16 came from. It could have come from some source other than
17 the Montrose plant; isn't that true?

18 A. The other samples represent the discharge directly from
19 the Montrose facility. I'm confused about the question.

20 Q. There are many sources of stormwater input into the
21 Kenwood drain; is that not correct, sir?

22 THE COURT: What was the concentration at Point 1?

23 THE WITNESS: 209 and 360 parts per billion.

24 THE COURT: And at 5?

25 THE WITNESS: 17 parts per billion.

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1 THE COURT: Why are you wasting time?

2 MR. LYTZ: Your Honor, there are many other
3 potential sources --

4 THE COURT: Why are you wasting time?

5 MR. LYTZ: Yes, sir.

6 BY MR. LYTZ:

7 Q. Did you take any background samples at all to try to
8 determine what the background concentrations were,
9 Mr. Simanonok?

10 MR. PHILLIPS: Objection.

11 THE COURT: The objection is sustained.

12 BY MR. LYTZ:

13 Q. Mr. Simanonok, you mentioned that you took information,

14 received information from the California Department of Fish
15 and Game; is that correct, sir?
16 A. We were on their distribution list for State Mussel
17 Watch.
18 Q. Were you -- And it was on the basis of that information
19 that you made a determination that there was fresh DDT going
20 into the sewer system; is that correct?
21 A. When you looked at the ratio in consolidated -- the
22 consolidated slip of the Los Angeles Harbor it suggested
23 there were recent inputs.
24 Q. You would agree that the California Department of Fish
25 and Game administers this Mussel Watch Program, and that

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1 they are the ones who are authoritative in this area?
2 This was just a couple of pages to go over in that
3 exhibit.

4 THE COURT: 1:30.

5 (Luncheon recess.)

6

7 REPORTER'S CERTIFICATE

8

9 I CERTIFY THAT THE FOREGOING IS A CORRECT
10 TRANSCRIPT FROM THE RECORD OF PROCEEDINGS
11 IN THE ABOVE-ENTITLED MATTER.

12

13 _____ October 17, 2000 _____

LEONORE A. LeBLANC

14 Official Reporter

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1 UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
3 WESTERN DIVISION
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HONORABLE MANUEL L. REAL, JUDGE PRESIDING

UNITED STATES OF AMERICA,)
)
 PLAINTIFF,)
)
 vs.) CIVIL NO. 90-3122-R
)
 MONTROSE CHEMICAL CORPORATION,)
 OF CALIFORNIA, ET AL.,)
)
 DEFENDANTS.)
 _____)
)
 AND RELATED COUNTERCLAIMS,)
 CROSS-CLAIMS AND THIRD-PARTY)
 ACTIONS)
 _____)

REPORTER'S TRANSCRIPT OF PROCEEDINGS
Los Angeles, California
Tuesday, October 17, 2000
1:30 P.M.
Afternoon Session

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1 LOS ANGELES, CALIFORNIA; TUESDAY, OCTOBER 17, 2000; 1:30 P.M.

2 THE COURT: All right.

3 STEVEN SIMANONOK, PLAINTIFFS' WITNESS, RESUMED

4 CROSS-EXAMINATION, RESUMED

5 BY MR. LYTZ:

6 Q. Mr. Simanonok, good afternoon. Just one last thing for
7 you, sir.

8 You mentioned in your testimony this morning that in
9 1982, you had received information from the California Mussel
10 Watch program that there were inputs of fresh DDT to the
11 Los Angeles harbor.

12 That's correct; isn't it, sir?

13 A. Yes.

14 Q. You included the California Mussel Watch program report
15 for 1982 -- you included their report for 1982, February of
16 1982, in the report that you wrote on this matter; isn't that
17 correct?

18 A. Yes.

19 Q. Let me draw your attention to the screen. This is
20 material taken from what you have labeled page B-18 of your
21 report. Let me just read for you.

22 This is from the Mussel Watch report itself:

23 "In examination of the Los Angeles Long Beach
24 harbor data for DDT and mussels, it is clear
25 that DDT contamination is not the result of

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1 recent input of p,p'-DDT or of p,p'-DDT that
2 might result from transient inputs according to
3 MacGregor's 1974 criteria."

4 Did I read that correctly, sir?

5 A. Yes, you did.

6 MR. LYTZ: Thank you.

7 I have no further questions.

8 THE COURT: Redirect?

9 MR. O'ROURKE: No, Your Honor.

10 THE COURT: Thank you. You may step down.

11 Call your next witness.

12 MR. O'ROURKE: Plaintiffs call John Redner.

13 THE CLERK: Please come forward.

14 Would you raise your right hand.

15 JOHN REDNER, PLAINTIFFS' WITNESS, SWORN

16 THE CLERK: Please be seated.

17 For the record, sir, would you please state your full
18 name and spell your last name.

19 THE WITNESS: My name is John Redner, R-e-d-n-e-r.

20 DIRECT EXAMINATION

21 BY MR. O'ROURKE:

22 Q. Mr. Redner, what's your educational background?

23 A. I have a bachelor's degree in civil engineering and a
24 master's degree in environmental engineering.

25 Q. And where do you currently work?

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1 A. I work for the county sanitation district of Los Angeles
2 County.

3 Q. What is that?

4 A. It's a public agency in Southern California.

5 Q. And if I refer to LACSD, will you understand that to mean
6 the same agency?

7 A. Yes, I will.

8 Q. What do you do at LACSD?

9 A. Currently, I'm a department head in charge of our
10 wastewater collection and treatment functions.

11 Q. How long have you been working there?

12 A. This current position I've had for a little over a year.

13 Q. How long have you worked at LACSD?

14 A. Since 1970.

15 Q. And at this point in time, how many people are under your
16 management?

17 A. At this time, approximately 600.

18 Q. Now, at any time were you ever involved in obtaining
19 information regarding Montrose Chemical's waste disposal
20 practices?

21 A. Yes, I was, early in my career at the sanitation
22 districts.

23 Q. Approximately what time was that?

24 A. Late 1970 and in 1971.

25 Q. And at any time did you study whether Montrose discharged

1 processed waste into the LACSD sewer system?

2 A. Yes.

3 Q. And what did you conclude?

4 A. We concluded that they did have a connection to our system
5 and were discharging processed waste.

6 Q. Did you draw any conclusions about whether that processed
7 waste contained any DDT?

8 A. Yes, we did. Sampling indicated that there were
9 measurable quantities of DDT in the discharge.

10 Q. And what steps were taken in light of that information, if
11 any?

12 A. Well, there were steps taken. Eventually, the final step
13 taken was to eliminate their discharge of processed wastewater
14 to the sewer system.

15 Q. Did you ever look into Montrose's waste disposal practices
16 after they disconnected from the sewer?

17 A. Yes, we did.

18 Q. I would like to turn your attention to an exhibit in the
19 witness binder.

20 Is there one that's been brought up? I'll bring them
21 up.

22 If you could turn your attention to the exhibit

23 tabbed number 1324.

24 A. Yes, I have that.

25 Q. Do you recognize this document?

120

1 A. Yes, I do.

2 Q. And how is it that you know about it?

3 A. I recognize the document from, obviously, seeing it

4 before. My name is down in the lower left-hand corner,

5 indicating that the document was routed to me when I was

6 working in the sanitation districts at that time.

7 Q. This document refers to a sampling that occurred. Were

8 you involved in that sampling at all?

9 A. Yes, I was.

10 Q. What was the purpose of taking these samples?

11 A. When part of the processed waste, a caustic waste, was

12 eliminated from the sewer discharge, Montrose Chemical began

13 trucking that waste to our Palos Verdes landfill and these were

14 some grabsamples that were taken from some of the tank trucks

15 that were discharging that waste into the Palos Verdes
16 landfill.

17 Q. Why were you interested in studying that waste?

18 A. Just to document the quantity of DDT that was in that
19 waste product that possibly would correlate with levels that we
20 were detecting in a sewer system.

21 Q. And did those levels correlate with what you had been
22 detecting in the sewer system?

23 MR. GALVANI: Objection.

24 THE COURT: Objection is overruled.

25 THE WITNESS: Yes, they did.

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1 BY MR. O'ROURKE:

2 Q. And referring again to Exhibit Number 1324, do you see a
3 calculation in the middle amounting to 455 pounds per day?

4 A. Yes, I do.

5 Q. Is that calculation consistent with your recollections of
6 this sampling event?

7 A. Yes, the calculation is representative of the work we were
8 doing.

9 I believe the number is slightly different than the
10 number I might have presented at a different time in a report,
11 but it's -- this was 455 pounds and I might have reported
12 something closer to 500 pounds.

13 Q. The last paragraph of this document refers to a progress
14 report that's titled "Pesticides and Heavy Metals, December
15 1970."

16 Are you familiar with that document?

17 A. Yes, I am.

18 Q. How are you familiar with that?

19 A. I was one of the authors of the document.

20 Q. Could I ask you to take a look at Exhibit Number 1233?

21 A. I have that.

22 Q. Do you recognize that document?

23 A. Yes, I do.

24 Q. What is that?

25 A. This is actually the first written document I ever

1 prepared for the sanitation districts in my career there. It's

2 titled "Pesticides and Heavy Metals." It's a progress report
3 on the investigation we were conducting in 1970.

4 Q. And if you turn to page 26 of that exhibit.

5 A. I'm on page 26.

6 Q. Do you see a portion entitled "J.O."D" and District 5
7 Interceptor Systems (Montrose)"?

8 A. Yes.

9 Q. What does that portion of this report describe?

10 A. This describes some sewer sampling investigation that we
11 had done on that portion of the sanitation district system both
12 upstream and downstream of where Montrose Chemical was
13 discharging.

14 Q. And what were the results of that sampling, if you recall?

15 A. My recollection at this time is those -- the report of
16 that investigation did indicate that there was a source of DDT
17 at that location.

18 The sampling that seems to be reported here as I have
19 flip through it appears to be in the latter part of 1970, July
20 August, September, and it's reporting the results from that
21 sampling.

22 Q. Are the results reported here consistent with your
23 recollection --

24 A. Yes.

25 Q. -- of the sampling event?

123

1 Would you turn to Exhibit Number 1410.

2 A. Yes, I have that.

3 Q. Do you recognize that document?

4 A. I certainly do.

5 Q. What is that?

6 A. It's a second progress report that I prepared 12 months

7 later in December of 1971. And the title is "Chlorinated

8 Hydrocarbons Progress Report."

9 Q. If you turn to page 8 of that document, do you see a chart

10 there?

11 A. Yes.

12 Q. What does that represent?

13 A. That represents both the chlorinated hydrocarbon

14 concentrations that we were measuring as well as a separate

15 plot of the total DDT, meaning the summation of the isomers of

16 DDT, DDE and DDE in the influent, what we describe as the

17 influent to our main treatment plant in the City of Carson,

18 which is called the Joint Water Pollution Control Plant.

19 It's from the period of December 1969 through

20 December of 1971.

21 Q. Do you see a drop in concentrations that takes place in

22 approximately April of 1970?

23 A. That's correct.

24 Q. Do you have any explanation for that drop in DDT

25 concentrations?

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1 A. My recollection is about that, in April of 1970,

2 represents the first sample we had taken after we had

3 discovered a large input of DDT from Montrose Chemical and

4 efforts were underway to try to reduce that discharge.

5 Q. Now if you could look at Exhibit 1329.

6 A. (Witness so complies.)

7 I have that.

8 Q. Do you recognize that document?

9 A. Yes, I do.

10 Q. How do you recognize it?

11 A. It's a document -- it's a handwritten memo form. It's in

12 my handwriting and it's from myself to my boss at the time.

13 Q. Do you see the line that states: "The effluent went to

14 the sewer containing 10 to 15 pounds per day DDT (according to

15 Max Silverman)"?

16 A. Yes, I do.

17 Q. Do you recall having a conversation with Max Silverman

18 about this topic?

19 A. Yes. Several conversations.

20 Q. Did you attempt to record the conversation accurately in

21 this memorandum?

22 A. Yes, I did.

23 Q. And do you have any evidence or any knowledge about

24 whether 10 to 15 pounds a day is an accurate estimate of the

25 amount of DDT discharged by Montrose?

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1 MR. GALVANI: Objection.

2 THE COURT: Objection is overruled.

3 THE WITNESS: Yes. My recollection is we felt that

4 was on the low side of what they were discharging.

5 BY MR. O'ROURKE:

6 Q. Can you turn to the front of your notebook.

7 A. (Witness so complies.)

8 Q. Do you see a written statement up there, "Direct Testimony
9 of John Redner"?

10 A. Yes.

11 Q. Did you prepare and sign and read this testimony?

12 A. Yes, I did.

13 Q. And subsequent to that, is there an errata sheet?

14 A. Yes, there is.

15 Q. Taken with the errata, is the testimony, to your
16 knowledge, true and accurate?

17 A. Yes.

18 MR. O'ROURKE: At this time, Your Honor, we would
19 move in the direct testimony and also move in the exhibits.

20 I would, however, read the exhibits we are moving
21 in. There was some duplication and I would like to avoid it
22 for the court's convenience.

23 So we are moving in Exhibit Numbers 1329, 1324, 1131,
24 1154, 1233, 1410, 1356 and 1099.

25 THE COURT: Any objection?

1 MR. GALVANI: Yes, Your Honor. We would object for
2 the grounds we set forth in our objections to the written
3 narrative.

4 Your Honor may recall that when the parties submitted
5 written narratives, the other side was given an opportunity to
6 file written objections. We have done that.

7 And the written narrative goes on for a great many
8 pages and we objected to a great many of the statements that
9 were set forth and that are contained in that narrative on
10 various grounds.

11 MR. PHILLIPS: If I could actually make a comment on
12 that, those objections were in large part converted into the
13 form of a motion to exclude Mr. Redner's testimony and to
14 exclude the data contained on these reports that we just moved
15 in and you denied that motion just two weeks.

16 THE COURT: The narrative and the exhibits that are
17 referred to in there -- thereto are in evidence.

18 (Joint Exhibits 1329, 1324, 1131, 1154, 1233, 1410, 1356
19 and 1099 received.)

20 MR. PHILLIPS: Thank you.

21 THE COURT: Cross-examination?

22

CROSS-EXAMINATION

23 BY MR. GALVANI:

24 Q. Now, Mr. Redner, when you wrote your first report, the

25 LACSD had conducted only one sample, had it not, of the

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1 effluent from the Montrose plant into the adjacent sewer line?

2 A. I don't recall if we had analyzed an actual effluent

3 sample from the Montrose plant at that time.

4 Q. When was the first day that LACSD, to your knowledge,

5 sampled the Montrose effluent?

6 A. I don't recall what the date is. It was either in late

7 1970 or sometime in early 1971.

8 Q. Wasn't it March 1970? March 30, 1970?

9 A. That was not a sample of the Montrose effluent. That was

10 a sample in the sewer system.

11 Q. Well, you sample the sewer system above and below Montrose

12 on March 30, 1970; isn't that right?

13 A. That's correct.

14 Q. And in -- during the month of April, within a few days of

15 that, Montrose discontinued the bulk of its discharge,

16 processed wastewater discharge, to the sewer system; isn't that

17 correct?

18 A. I believe that is correct.

19 Q. So you only had one reading, did you not, with respect to

20 releases of DDT from Montrose into that sewer line before you

21 wrote your 1970 report which has been marked as Exhibit 1233;

22 correct?

23 A. Correct.

24 Q. Now, you would agree, would you not, that you cannot

25 extrapolate from one day's sampling event to a quantity of

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1 discharge over a 25-year period?

2 A. I would agree.

3 Q. And in fact, in your subsequent report in 1971, you quoted

4 Mr. Parkhurst to that effect, did you not?

5 A. I don't recall at this time.

6 Q. Who is Mr. Parkhurst?

7 A. He was the chief engineer and general manager of the

8 sanitation districts at that time.

9 MR. GALVANI: All right. May I have, please, Exhibit
10 1410, page 16. And could you enlarge that.

11 BY MR. GALVANI:

12 Q. It says, does it not, quote: "These samples" -- and you
13 are referring to the samples taken on March 30, 1970; isn't
14 that right?

15 It says that; right?

16 A. Yes, that's correct.

17 Q. "These samples were the highest ever obtained in the
18 sanitation districts' sewerage system ... (the
19 samples) cannot be said to represent average
20 conditions where the actual amount of DDT
21 being" -- and then we have to turn to page 19 --
22 "being wasted by Montrose since the Montrose
23 waste stream was not sampled and because
24 sediments downstream of Montrose have been found
25 to be high in DDT," unquote.

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1 Isn't that correct?

2 A. That's correct.

3 Q. Now, did you ever again sample Montrose's waste effluent
4 before it ceased the elimination of its wastewater process
5 stream to the sewer system?

6 A. As I said before, this was not a sample of -- directly of
7 Montrose effluent. It was a sample down in the sewer -- it was
8 a sample in the sewer downstream of their discharge.

9 Q. But you never again -- I'm sorry.

10 A. Even the March 1970 result was not a sample of Montrose
11 effluent per se.

12 Q. But that's the only sample that you rely on for the
13 proposition that you have set forth in your report that there
14 were 600-plus pounds a day that came from Montrose; isn't that
15 right?

16 A. On that day that we sampled, yes, that's true.

17 Q. And that's the only sample that you have that supports
18 that conclusion; correct?

19 A. There was some corroborating evidence from the waste
20 sampling at the landfill.

21 Q. Well, that was also a sample taken on one day; is that not
22 correct?

23 A. That's correct.

24 Q. So you had two days' samples yielding different results;
25 correct?

1 A. Yes.

2 Q. Now, the day that you took the sample on March 30th, 1970

3 that's reported in your 1970 report, you also found a

4 significant load of DDT elsewhere in the sewer system, didn't

5 you?

6 A. Yes.

7 Q. And that was on a line that had -- that bore no

8 relationship to Montrose; correct?

9 A. That's correct.

10 Q. In fact, you found 420 pounds of DDT a day being released

11 through what's called the JOB line; correct?

12 A. That's correct.

13 Q. But you wrote that off, didn't you?

14 A. No. We spent a lot of time and effort sampling in that

15 system to attempt to locate sources of DDT.

16 Q. Well, didn't you conclude that that result was suspected

17 as being high?

18 A. I don't recall if we actually made that statement.

19 MR. GALVANI: Well, may I have Exhibit 1233, page 33,
20 please.
21 BY MR. GALVANI:
22 Q. And I guess it's not highlighted, but I would like you to
23 look --
24 Is that page 33?
25 Yes. If you would look at the next to last sentence

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1 in the next to last -- the last full paragraph, you wrote, did
2 you not, right here: "The samples were not obtained on the
3 same days and the total near JWPCP was suspected as being
4 high"; correct?
5 A. Yes, I wrote that.
6 Q. So you concluded that although you got 420 pounds of DDT
7 per day in the J.O."D" line, that was suspect. That was high
8 and you never followed up on that again; right?
9 A. We certainly did follow up on it.
10 Q. Well, you never found a source for it, did you?
11 A. That's correct.
12 Q. But on the same day that you took that sample, you took

13 one other sample near Montrose and that's been the basis for
14 the last 30 years of an assertion that Montrose discharged 650
15 pounds a day?

16 MR. PHILLIPS: Objection to the form of the question.

17 THE COURT: Objection sustained.

18 BY MR. GALVANI:

19 Q. Well, it's the same day that you found the results at
20 Montrose and you didn't -- and yet you relied on that?

21 A. Yes.

22 Q. Now, it was not -- the sampling or the analytical
23 techniques with respect to DDT were not as sensitive 30 years
24 ago as they are today; would you agree?

25 A. I would agree.

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1 Q. In fact, it was not the easiest thing at all to do to
2 measure DDT in a sewer system, was it?

3 A. That's correct.

4 Q. By the way, your report, your second report, is
5 denominated "Chlorinated Hydrocarbons." That would be

6 pesticides, would it, including DDT?

7 A. Yes. Pesticides, DDT and other chlorinated hydrocarbons
8 that are not considered pesticides.

9 Q. But you didn't call DDT a hydrocarbon, did you?

10 A. Yes.

11 Q. Wasn't it a chlorinated hydrocarbon?

12 A. I'm sorry. I misunderstood your question. Yes, it's a
13 chlorinated hydrocarbon.

14 Q. There is a difference between a chlorinated hydrocarbon
15 and a hydrocarbon; right?

16 A. That's correct. And I may have misunderstood your
17 question. The second report refers to chlorinated
18 hydrocarbons.

19 Q. Now, this sampling protocol, the sampling study that you
20 undertook in 1970 and 1971, would you agree that that was
21 neither quantitative nor qualitative?

22 A. No, I would disagree with that statement. We felt it was
23 both qualitative and quantitative, but not to very low, low
24 levels or low concentrations.

25 Q. Well, didn't you write that it was neither qualitative nor

1 quantitative?

2 A. I don't recall.

3 MR. GALVANI: May I have Exhibit 1369, please. The
4 second page.

5 Well, sorry, Your Honor. I misspoke. It's Exhibit
6 19050. I'm sorry. Marked for identification Exhibit 19050,
7 the second page.

8 Why don't you show him the first page so that the
9 witness can identify this document. Do you have the first
10 page?

11 No. Sorry. You have the wrong document. 19050, the
12 pesticide survey report prepared by Mr. Redner in September of
13 1971.

14 Let me -- with Your Honor's permission, may I just
15 hand it up? It will make things a little easier.

16 THE COURT: 1410.

17 BY MR. GALVANI:

18 Q. Now, would you turn to the second page of this document,
19 Mr. Redner. You wrote this document, didn't you?

20 A. Yes, I did.

21 Q. And the second -- and there is a paragraph indented under
22 the title "Laboratory Procedures" on the second page. And the

23 second sentence reads, does it not:

24 "Reliability is rather difficult to define for

25 a procedure which is designed to be neither

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1 quantitative nor qualitative within the

2 conventional concepts of chemical analytical

3 methodology."

4 You wrote that, didn't you?

5 A. Yes. I quoted that.

6 Q. You quoted -- who were you quoting when you wrote that?

7 A. Raymond Stewart, an employee of the sanitation districts,

8 who was the head of our laboratory at that time.

9 Q. And that quote referenced the study that you had embarked

10 upon, did it not?

11 A. It was -- yes, the reference was to the analytical

12 procedures, not to the study that we were doing.

13 Q. Well, the procedures --

14 A. That was part of it, of course.

15 Q. The procedures, you wrote, were "neither quantitative nor

16 qualitative," you quoted Mr. Stewart; right?

17 A. Yes.

18 Q. Now, earlier in that very same document if you go back to

19 the first page, the second sentence of your report reads:

20 "The erratic nature of the result prevents a

21 complete evaluation of the system."

22 Isn't that right?

23 A. That's what I wrote.

24 Q. You were receiving erratic results?

25 A. Yes, apparently we were.

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1 Q. Would you turn to the last sentence of that report, on

2 page 115. You wrote, did you not:

3 "It is apparent that sewer sampling is in need

4 of further investigation to determine how and

5 where representative samples can be obtained."

6 A. Yes.

7 Q. Those were not the only documents that you wrote in which

8 you described difficulties in both gathering samples and

9 analyzing them from the sewer system, is it?

10 A. No, it's not.

11 MR. GALVANI: And could we have Exhibit 1369,
12 please. First page.

13 BY MR. GALVANI:

14 Q. Now, you wrote this report in conjunction with the surveys
15 you were conducting of the LACSD system; right?

16 A. Yes. It has my name underneath the title.

17 Q. Well, you wrote it, didn't you?

18 A. I must have. It's hard to read it from here.

19 Q. You don't remember it? Well, I would be happy to give you
20 a copy and it may make it easier.

21 THE COURT: You may step down.

22 THE WITNESS: Thank you.

23 BY MR. GALVANI:

24 Q. Now, the second paragraph, in the third sentence, you
25 wrote, quote: "Obtaining a representative sewer solid sample

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1 is extremely difficult." Right?

2 A. Yes.

3 Q. And then in the next paragraph, you wrote: "Erratic
4 results have been a recurring problem with the pesticide
5 survey."

6 That was your survey; right?

7 A. That's correct.

8 Q. "Particularly since source control has decreased the
9 concentrations in the CSD sewage system."

10 Well, Montrose had, for all intents and purposes,
11 ceased its discharge in April of 1970; right?

12 A. That's correct.

13 Q. Now, you went in the next to last paragraph on that page
14 and you wrote: "Resampling" -- this is in the second
15 sentence:

16 "Resampling was necessary because of the
17 erratic results obtained from the July 15 to 16,
18 1971 survey. See the June '71 monthly report."

19 That was your report; right?

20 A. Yes.

21 Q. Now, I want to direct your attention to the bottom
22 paragraph of this document. You say:

23 "All of the data are not yet available, so an
24 analysis of the results is incomplete. However,
25 the data that are available indicate that a

1 serious sampling problem exists. Mean values
2 calculated for the two samples per station show
3 a variation from 2 to 240 percent. Six of the
4 ten stations that have been analyzed show a
5 sampling variation of 100 percent or more."

6 Right?

7 A. That's correct.

8 Q. So contemporaneously with the survey that you conducted,
9 the sample you took near the Montrose plant in March of 1970
10 and then the truck sample you took a year later, you wrote that
11 mean values from two samples were very -- showed a variation
12 from 2 to 240 percent?

13 A. I think what I would disagree with there is lumping
14 samples at different times together. I believe this is
15 referring to a particular sampling run that was being analyzed
16 in this report. I believe it was August 1971.

17 Q. So --

18 A. And we were having a lot of difficulties at that time.

19 And one of the reasons was that the concentrations we were

20 finding were much lower than they had previously been.

21 Q. So you weren't having difficulty the year before?

22 A. No. Concentrations were quite a bit higher.

23 Q. How come you had trouble finding the 420 pounds per day in

24 J.O."D"? You suspected that as high. Those were high

25 concentrations, weren't they?

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1 A. Yes.

2 Q. Now, you went on on the next page of this document 1369

3 and you said that "These results were quite disturbing," didn't

4 you?

5 A. Yes.

6 Q. And you said "Poor sampling technique may be a problem" in

7 the second paragraph.

8 A. Yes, I see that.

9 Q. And then in the third paragraph, the last sentence, you

10 wrote: "Background interference, which is always a problem

11 with sewage samples, may be the cause."

12 A. Yes.

13 Q. Now, background interference was in fact commonplace in
14 the '70-71 time period when you were trying to analyze for
15 chlorinated pesticides; isn't that right?

16 A. That's exactly right, particularly as the concentrations
17 got lower.

18 Q. So there was no background interference if the
19 concentrations were high?

20 A. It depends on the material you were looking for. Some of
21 the samples we got, there just appeared to be no interference
22 whatsoever. That is my recollection.

23 Q. Well, did you check --

24 A. The concentrations were so high.

25 Q. Did you check for interference when you tested near

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1 Montrose?

2 A. I would have to defray that question to our laboratory
3 people. I'm sure they looked for interference.

4 Q. Do you know if they looked for interference on the 420
5 pound result?

6 A. Yes, I'm sure they did.

7 Q. What did they find?

8 A. I don't recall specifically with the 420 pound result, but

9 I know on that portion of the system, we were getting -- we
10 eventually started seeing a lot of interference from other
11 chlorinated hydrocarbons.

12 Q. So you saw it on that portion of the system, but not on
13 the portion that Montrose was on; is that your testimony?

14 A. That's correct. That's my recollection.

15 Q. What have you done to refresh that recollection?

16 A. I haven't needed to do anything at this point.

17 Q. Now, you reported in your 1971 report, December 1971,
18 Exhibit 1410, that "By that point in time, the overall input
19 from Montrose" --

20 And this is page 21, if you could turn to that.

21 A. Yes, I have it.

22 Q. "The overall input is considerably less than .1 pound per
23 day."

24 A. That's correct.

25 Q. And that was 29 years ago?

1 A. Yes.

2 Q. Did it ever go up after that?

3 A. I do not believe it did.

4 Q. Did it continue to go down?

5 A. I don't recall. Eventually, Montrose start discharging
6 altogether, so I guess I should rephrase that. It went down
7 even further.

8 Q. Well -- and the discharge had ceased for the most part in
9 April of '70 and then altogether in '71; right?

10 A. Yes; that's correct.

11 Q. And for the last 29 years, it is a fact, is it not, that
12 there has been less than one ton per year of DDT discharged
13 through the outfall?

14 A. I don't recall what the current discharge is.

15 Q. Have you looked at Mr. Ackerman's report?

16 A. No, I have not.

17 Q. Do you know Mr. Ackerman?

18 A. Yes, I do.

19 Q. Who is he?

20 A. He is a retired employee of the sanitation districts.

21 Q. And you don't know that part of his responsibility was to
22 analyze how much DDT was coming out the outfall each year?

23 A. Yes, I do know that he did that.

24 Q. But you never looked at his results for the last 29 years?

25 A. No, I did not.

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1 Q. Now, after Montrose -- after discharges from Montrose
2 entered the sewer line, it didn't go straight to the ocean, did
3 it?

4 A. No, it did not.

5 Q. It followed an extensive path through the sewer system
6 until it reached the White's Point outfall?

7 A. It also went through a treatment plant first before it got
8 to the outfall.

9 Q. And when it got to the treatment plant -- who operates the
10 treatment plant?

11 A. The sanitation districts do.

12 Q. And the sanitation districts' job was to treat the sewage
13 before it was discharged to the ocean; isn't that right?

14 A. That's correct.

15 Q. And part of that effort was to remove particulate matter;
16 right?

17 A. Yes.

18 Q. Suspended solids?

19 A. Yes.

20 Q. And do you recall now what percent of the particulate
21 matter was removed by the treatment plant in 1970?

22 A. I don't recall a specific number at this time. I could --

23 I would assume it would be in the neighborhood of 50 percent.

24 Q. 50 percent. So of the DDT that left the Montrose plant
25 and made it to the Carson Treatment Plant, your best

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1 recollection is that 50 percent would have been removed at that
2 point?

3 A. Yes.

4 Q. So if you were to assume hypothetically that your number
5 of 650 were in fact correct, by the time that amount got to the
6 treatment plant, it would be down to 325?

7 A. Yes, you could make that assumption.

8 Q. Now, along the way, DDT precipitated out into the sewer
9 lines, didn't it?

10 A. In some locations it did, yes.

11 Q. In fact, you were involved in an extensive sewer cleaning
12 operation; in fact, two of them, weren't you?

13 A. As a matter of fact, there were more than two.

14 Q. Well, how many were they?

15 A. There was one in 1970, end of 1970, another one in 1971, I
16 believe. And then between 1996 approximately and 1999, there
17 was a series of other attempts to clean the sewer.

18 Q. And so obviously any DDT that coagulated in the sewer
19 pipes hadn't gotten to the outfall; right?

20 A. Yes. The DDT that was tied up with some of the material
21 that was being discharged.

22 Q. By the way, the first such cleaning occurred in the early
23 '70s; is that what you said?

24 A. Yes, that's my recollection. End of 1970 -- middle of
25 1970 to the end of 1970.

1 Q. Do you remember how much material was removed?

2 A. The number of 7,000 pounds sticks in my mind, but I would
3 have to look at the report. It was documented.

4 Q. 7,000 pounds of DDT?

5 A. Yes.

6 Q. There was a much larger percentage of material in the
7 sewer system; right?

8 A. Yes. I believe the material was about 20 percent by
9 weight DDT.

10 Q. And where did that 7,000 pounds of DDT go after it was
11 removed from the sewer line?

12 A. After it was removed from the sewer, it was transported by
13 truck to our main treatment plant in the City of Carson and was
14 stored there for a number of years.

15 Q. Open to the elements?

16 A. Yes.

17 Q. Now, did -- Montrose had a permit to discharge processed
18 waste into the sewer system, didn't it?

19 A. Yes, I believe they did.

20 Q. And in fact, there were no limits for pesticides in that
21 permit, were there?

22 A. I do not believe there were, not at that time, no.

23 Q. In fact, there had never been any limits placed on the
24 LACSD for the discharge of DDT prior to 1971; isn't that right?

25 A. I don't know the date that the limits were placed, but

1 certainly in 1970, when I started on the project, there were no
2 limits.

3 Q. Now -- but there were limits on LACSD's discharge of
4 suspended solids?

5 A. Yes.

6 Q. And did LACSD ever violate those limits?

7 A. I don't recall.

8 Q. You don't know that LACSD, on numerous occasions, violated
9 the limits placed on its discharge permit?

10 MR. O'ROURKE: Objection, Your Honor.

11 THE COURT: Objection sustained.

12 BY MR. GALVANI:

13 Q. Now, there came a time, did there not, when the EPA
14 ordered LACSD to go from primary treatment, so-called, to
15 secondary treatment; isn't that right?

16 A. That's correct.

17 Q. When did that happen?

18 A. I'm not sure of the date of the first order. I would
19 assume it was in the mid '70s, maybe latter part of the 1970s.

20 Q. And the purpose of going to secondary treatment would be,
21 at least in part, to remove more suspended solids; right?
22 A. That's correct.
23 Q. Has LACSD to this day gone to secondary treatment?
24 A. Yes, we have.
25 Q. When?

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1 A. Currently, the plant is approximately 60 percent secondary
2 treatment, which was all that was necessary to meet the
3 limitations established. And currently we are upgrading to
4 full secondary treatment.
5 Q. When did you go to the initial phase of secondary
6 treatment?
7 A. I believe it came on line in 1984.
8 Q. All right. I would like to turn back to Exhibit 1410,
9 please, your 1971 report, in particular page 46.
10 This one additional item you wrote, not the paragraph
11 that's highlighted, but the prior paragraph, please.
12 Right there, that last couple of sentences.
13 You wrote:

14 "Obtaining a representative sewer solid sample
15 is extremely difficult. Add to this the fact
16 that pesticides are not uniformly distributed in
17 solid samples and you have an idea of the
18 problem in obtaining a representative sewer
19 pesticide sample."

20 Right?

21 A. Correct.

22 MR. GALVANI: I have no further questions.

23 THE COURT: Redirect?

24 MR. PHILLIPS: Yes, Your Honor.

25 /

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1 REDIRECT EXAMINATION

2 BY MR. PHILLIPS:

3 Q. Mr. Redner, would you please turn to Exhibit 1131 that was
4 placed before you previously.

5 Your Honor, for the record, this is a June 16, 1970
6 letter from the vice president of Montrose, A.R. Wilcox, to

7 Mr. Parkhurst, previously admitted by the court.

8 MR. GALVANI: Your Honor, could I be clear if this is
9 cross-examination or is this redirect?

10 THE COURT: Redirect.

11 MR. GALVANI: Well, there is a different attorney
12 from the one who handled the direct.

13 MR. PHILLIPS: This is questioning regarding the
14 counterclaim in the case that I am defending.

15 THE COURT: All right.

16 BY MR. PHILLIPS:

17 Q. Directing your attention, Mr. Redner, to the second
18 paragraph on the first page, if you would follow along with me,
19 this letter is to Mr. Parkhurst at LACSD.

20 First of all, do you recognize this letter and do you
21 remember receiving a copy of this letter?

22 A. Yes, I recognize the letter.

23 Q. And do you see some writing at the bottom of the page that
24 tells you that you did in fact receive a copy of this letter or
25 some notations that indicate it would have been routed to you?

1 A. I don't see any indications on this page that indicated
2 that it was routed to me. There are indications that it was
3 routed through several people coming down the chain of
4 command.

5 Q. All right, sir. Directing your -- and you were part of
6 that chain at that time?

7 A. Yes.

8 Q. The bottom of the chain?

9 A. The bottom of the chain.

10 Q. Okay. Back in 1970, direct your attention to the second
11 paragraph from the vice president of Montrose:

12 "Recently, your personnel have monitored our
13 effluent discharge for DDT content and your
14 values have been found to correspond closely to
15 current values being obtained in our local
16 laboratories."

17 And the last sentence:

18 "Considering the complexity of the samples and
19 sensitivity of these test procedures, these
20 results would be considered as checking each
21 other."

22 Do you see that, sir?

23 MR. GALVANI: Your Honor, I object. It's a document

24 that this witness says he isn't familiar with and it's beyond
25 the scope of my cross-examination.

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1 THE COURT: But it is an admission of Montrose.

2 MR. GALVANI: Well, if there were a foundation.

3 There is no foundation for that.

4 THE COURT: Well, I think it has the address of
5 Montrose on it and addressed to the chief engineer and general
6 manager.

7 MR. PHILLIPS: A classic 801(d)(2) admission. They
8 said it. They can explain why their tests were corresponding
9 to his tests of several hundred pounds a day in the sewer.

10 BY MR. PHILLIPS:

11 Q. All right. Now you were conducting some tests at that
12 time; right?

13 A. Yes, we were.

14 Q. And were they conducting some tests?

15 A. Yes.

16 Q. And this handwriting at the bottom of the page, do you

17 recognize this as handwriting that was part of the normal
18 business record process at the L.A. County Sanitation District,
19 sir?

20 MR. GALVANI: Objection.

21 THE COURT: The objection is overruled.

22 THE WITNESS: Yes, I recognize it.

23 BY MR. PHILLIPS:

24 Q. Tell us what you recognize.

25 A. I recognize the initials of the people that had seen this

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1 letter and I also recognize the handwriting and the initial of
2 gentleman who wrote a little paragraph at the bottom of the
3 page, Frank Dryden.

4 Q. Now, this date, June 16, 1970 -- how close in time did
5 that correspond to the test that you personally were involved
6 in that reflected several hundred pounds of DDT discharges in
7 the sewer per day by Montrose?

8 MR. GALVANI: Objection.

9 THE COURT: The objection is overruled.

10 THE WITNESS: The testing that indicated several

11 hundred pounds -- 600 pounds a day that's been quoted was in
12 March of 1970.

13 BY MR. PHILLIPS:

14 Q. All right, sir. And then the testing that you testified
15 concerning the -- I believe it was referred to as the Palos
16 Verdes landfill testing -- do you remember when that was, sir?

17 A. I don't recall without looking back at the memo. I
18 believe it was in -- later in 1970, August 1970, maybe even in
19 '71.

20 Q. And do you remember personally being there on that day?

21 A. Yes, I remember that day.

22 Q. And what is it about that day that you personally
23 remember?

24 A. What makes it stick in my mind was that day at the
25 landfill, they were disposing of a lot of bananas.

1 Q. With respect to the test that you were running and
2 Montrose was running, what tests were being compared that were
3 considered as checking each other, if you know?

4 A. You mean by what analytical tests?

5 Q. Yes.

6 A. The analysis for DDT.

7 Q. And how many different samplings or data points did LACSD

8 gather which showed, even given the limitations of technology

9 at that time that Montrose was discharging several hundred

10 pounds of DDT in the sewer per day?

11 MR. GALVANI: Objection to the form of the question.

12 THE COURT: The objection is sustained.

13 BY MR. PHILLIPS:

14 Q. All right, sir. Directing your attention to the testimony

15 you gave in response to Mr. Galvani's question about the 420

16 pound source, do you recall that?

17 MR. GALVANI: I asked several questions about it,

18 Your Honor.

19 THE COURT: If you recall, all right.

20 BY MR. PHILLIPS:

21 Q. Did you indicate that you followed up on sources?

22 A. Yes, I did.

23 Q. And did you do that as part of your investigation, sir?

24 A. Yes.

25 Q. And how many sources did you identify for DDT discharges

1 through the LACSD system?

2 A. There was no other significant source.

3 Q. Other than?

4 A. Other than Montrose Chemical.

5 Q. All right. Now, you were asked some questions about

6 primary versus secondary treatment. Briefly describe primary

7 treatment versus secondary treatment to the court.

8 A. Primary is a gravity separation process where the

9 wastewater is slowed down sufficiently to enable the suspended

10 material to settle to the bottom of a tank, where it can be

11 removed and the cleaner wastewater at the top then moves on for

12 further treatment. That's considered primary treatment.

13 The secondary treatment process is a biological

14 treatment process that we use that supplies oxygen and -- along

15 with bacteria that's in the wastewater and the wastewater

16 becomes a food source and the bacteria essentially consume the

17 organic material that's left in the wastewater after primary

18 treatment.

19 And the bacteria that grow as a result of that

20 process then are settled out in settling tanks and then reused

21 in the process.

22 Q. Did it cost the LACSD millions, tens of millions or
23 hundreds of millions to provide secondary treatment?

24 MR. GALVANI: Objection, Your Honor.

25 THE COURT: Objection is overruled.

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1 MR. GALVANI: Unless there is a foundation, Your
2 Honor, that somehow is relevant.

3 THE COURT: The man worked for the company.

4 MR. GALVANI: But the issue is -- it's not relevant
5 to the issues in this case, Your Honor.

6 THE COURT: The objection is overruled, counsel.

7 THE WITNESS: It costs the sanitation districts
8 hundreds of millions of dollars to conduct secondary
9 treatment.

10 BY MR. PHILLIPS:

11 Q. Finally, sir, directing your attention to the third
12 paragraph on the letter from the Montrose vice president,
13 Exhibit 1131, the first sentence:

14 "During the past several years, we have
15 gradually reduced the quantity of DDT-like
16 materials being discharged into the county
17 sewer."

18 Do you see that, sir?

19 A. Yes, I do.

20 Q. Do you recall receiving correspondence from Montrose
21 officials about the magnitude of that reduction?

22 A. Yes. I can't say that I recall receiving it. I recall
23 reading it, reviewing the letters that came in.

24 Q. Was it something in the neighborhood of tenfold?

25 A. Yes, in that order of magnitude.

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1 Q. Now, sir, I want you to assume that statement is true,
2 that during the past several years, Montrose had gradually
3 reduced the quantity of DDT-like materials being discharged
4 into the county sewer.

5 What would that say, sir, about the sampling that you
6 were conducting in 1970, whether it was indicative of lower
7 amounts or greater amounts than would have been in the sewer in

8 1950 or 1960?

9 MR. GALVANI: Objection, Your Honor. Calls for an
10 opinion. This man is not here as an expert.

11 THE COURT: Objection is sustained.

12 MR. PHILLIPS: Thank you. I have nothing further.

13 THE COURT: Anything further?

14 MR. GALVANI: I have some additional cross.

15 RECROSS-EXAMINATION

16 BY MR. GALVANI:

17 Q. Mr. Redner, the letter to Mr. Parkhurst that Mr. Phillips
18 just asked you to look at, he was comparing some monitoring
19 that Montrose did of its effluent discharge; correct?

20 A. That's correct.

21 Q. That's not the monitoring of the wastewater discharge that
22 you referred to that was monitored -- that was sampled in
23 March, is it?

24 A. No, it's not the same as the samples in March.

25 Q. And these concentrations were very much different from

1 what you said you found in March; right?

2 A. Yes. I believe these were reported in the 1 to 5 parts

3 per million range, which were quite a bit lower than what we

4 found in March.

5 Q. Now, you also said that you were never able to determine

6 another source on the other sewer line, the J.O."D" line;

7 correct?

8 A. I actually said "significant source," I believe.

9 Q. Montrose wasn't on that line, was it?

10 A. No, they were not.

11 Q. Now, with respect to the secondary treatment order from

12 the EPA to LACSD, the EPA -- the LACSD sought a waiver from

13 that obligation, did it not?

14 A. Yes, we did.

15 Q. Are you familiar --

16 A. We started the process, I believe.

17 Q. Are you familiar with the waiver process that was

18 followed?

19 A. No, not very well.

20 Q. Have you seen any of the papers that were developed in

21 connection with that process?

22 A. No, I never have.

23 Q. Did you ever learn what the EPA had concluded about

24 whether to grant the waiver?

25 A. At this point, I don't recall whether they denied the

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1 waiver or whether we got to that point and decided to remove
2 it. I just don't recall.

3 Q. Are you aware that EPA, in connection with that process,
4 concluded that EPA:

5 "Does not believe in either the necessity of
6 capping the DDT sediments with effluent
7 suspended solids or the necessity of continued
8 higher suspended solids discharge to provide
9 bioturbation and subsequent DDT reexposure."

10 Were you aware of that?

11 MR. PHILLIPS: Objection.

12 THE COURT: The objection is sustained.

13 MR. GALVANI: I have no further questions.

14 THE COURT: Anything further?

15 MR. PHILLIPS: Nothing further, Your Honor.

16 THE COURT: Mr. Redner, you may step down.

17 Call your next witness.

18 MR. O'ROURKE: Before we call the next witness, I
19 just want to clarify one thing from earlier.
20 My name is Steve O'Rourke, for the record.
21 I mentioned that we were going to move in 11
22 deposition transcripts. I never mentioned who those witnesses
23 were. I'd just like to read them into the record.
24 THE COURT: All right.
25 MR. O'ROURKE: The names are John Kallok --

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1 THE COURT: Can you spell the last names, please?
2 MR. O'ROURKE: K-a-l-l-o-k. The next name is
3 Ferdinand Suhrer. That's S-u-h-r-e-r. Guy, G-u-y, DiMichelle,
4 D-i-M-i-c-h-e-l-l-e. Bernard Bratter, B-r-a-t-t-e-r. Walter
5 Carey, C-a-r-e-y, Vincent Anicich, A-n-i-c-i-c-h. Jack
6 FitzGerald, F-i-t-z-G-e-r-a-l-d. Charles Gardner,
7 G-a-r-d-n-e-r. Kurt with a K Weston, W-e-s-t-o-n. Vernon,
8 V-e-r-n-o-n, Shehan, S-h-e-h-a-n.
9 MR. GALVANI: Your Honor, may I also move in the two
10 exhibits that Mr. Redner testified he had authored, Exhibits

11 1369, and 19050.

12 THE COURT: Any objection?

13 MR. PHILLIPS: No objection, Your Honor.

14 THE COURT: In evidence.

15 (Joint Exhibits 1369 and 19050 received.)

16 MR. SPECTOR: Good afternoon, Your Honor. Jeffrey
17 Spector for the United States. At this point, in an effort to
18 move things along, we are going to be presenting three
19 witnesses for whom the plaintiffs will now provide additional
20 direct testimony.

21 Rather, we will present those witnesses, have them
22 confirm the date of providing declarations stating their direct
23 testimony and then simply hand them to the defendants for
24 potential cross-examination.

25 At this point, the plaintiffs would like to call

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1 Rodger Baird.

2 THE CLERK: Please come forward.

3 Would you raise your right hand.

4 RODGER BAIRD, PLAINTIFFS' WITNESS, SWORN

5 THE CLERK: Be seated.

6 For the record, sir, would you please state your full
7 name and spell your last name.

8 THE WITNESS: My name is Rodger Baird, B-a-i-r-d.

9 DIRECT EXAMINATION

10 BY MR. SPECTOR:

11 Q. Good afternoon, Mr. Baird.

12 Did you submit a declaration setting forth your
13 direct testimony in this matter?

14 A. Yes, I did.

15 Q. And is that declaration in front of you currently?

16 A. Yes, it is.

17 Q. Does that appear to be a true and accurate copy of your
18 declaration?

19 A. There is one mistake I found on line 17 of page 1. And
20 it's the dates that I was Assistant Manager of Laboratories,
21 1991 to 1999.

22 Q. Are there any other corrections you would like to make to
23 your declaration?

24 A. Not that I found, no.

25 MR. SPECTOR: Your Honor, at this time we would like

1 to move the declaration of Roger Baird into evidence.

2 THE COURT: All right. Any objection?

3 MR. GALVANI: No objections, Your Honor.

4 THE COURT: In evidence.

5 Cross-examination?

6 MR. GALVANI: Just a couple of questions, Your Honor,
7 if I may.

8 CROSS-EXAMINATION

9 BY MR. GALVANI:

10 Q. Mr. Baird, when did you start to work at LACSD?

11 A. September of 1970.

12 Q. And where did you work initially?

13 A. Initially, I worked at the JWPCP laboratory and I started
14 in the White Chemistry section.

15 Q. And that's in Carson?

16 A. Yes, sir.

17 Q. So you were working at the chemistry lab in Carson during
18 the period '70 to '71 with Mr. Redner when Mr. Redner performed
19 these surveys; is that right?

20 A. Yes.

21 Q. Do you recall sending a memorandum to Robert Mele
22 concerning analytical problems with DDT?

23 MR. SPECTOR: Your Honor, I would object at this
24 moment. The direct testimony of Rodger Baird is extremely
25 narrow and deals solely with chain of custody issues. This

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1 question appears to be outside the scope of direct.

2 MR. GALVANI: I thought it included an offer of the
3 data that he referred to in his chain of custody.

4 MR. SPECTOR: It does not. It's simply the direct
5 testimony.

6 THE COURT: It doesn't include it. So you don't have
7 to question about it.

8 MR. GALVANI: No further questions.

9 THE COURT: You may step down.

10 Call your next witness.

11 MR. SPECTOR: At this time, we would like to call
12 Alex Steele.

13 THE CLERK: Please come forward.

14 Please raise your right hand.

15 JOHN ALEXANDER STEELE, PLAINTIFFS' WITNESS, SWORN

16 THE CLERK: Please be seated.

17 For the record, sir, would you please state your full
18 name and spell your last name.

19 THE WITNESS: John Alexander Steele, S-t-e-e-l-e.

20 DIRECT EXAMINATION

21 BY MR. SPECTOR:

22 Q. Good afternoon, Mr. Steele.

23 Did you submit a declaration setting forth your
24 direct testimony in this matter?

25 A. Yes, I did.

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1 Q. Could you please turn to the front of your binder, where
2 you will see a declaration.

3 A. (Witness so complies.)

4 Uh-huh.

5 Q. Is that a true and correct copy of the declaration that
6 you submitted in this matter?

7 A. Yes, it is.

8 MR. SPECTOR: Your Honor, at this time we would like
9 to move the declaration of Alex Steele and exhibits cited
10 therein into evidence.

11 THE COURT: Any objection?

12 MR. GALVANI: No objection.

13 THE COURT: In evidence.

14 Cross-examination.

15 MR. GALVANI: No questions.

16 THE COURT: You may step down, Mr. Steele.

17 Call your next witness.

18 MS. GILLESPIE: Your Honor, I'm Amy Gillespie,
19 representing the United States.

20 I call Norman Ackerman.

21 THE CLERK: Please come forward.

22 Please raise your right hand.

23 NORMAN ACKERMAN, PLAINTIFFS' WITNESS, SWORN

24 THE CLERK: Please be seated.

25 For the record, sir, would you please state your full

1 name and spell your last name.

2 THE WITNESS: Norman Ackerman, A-c-k-e-r-m-a-n.

3 DIRECT EXAMINATION

4 BY MS. GILLESPIE:

5 Q. Good afternoon, Mr. Ackerman.

6 Can you tell us if you submitted a declaration as
7 testimony in this case?

8 A. Yes.

9 Q. Would you open to the first exhibit there in the notebook
10 before you.

11 A. (Witness so complies.)

12 Q. You will see a four-page document. Is this the
13 declaration that you submitted?

14 A. Yes.

15 Q. Did you sign your name to this under penalty of perjury?

16 A. Yes.

17 Q. And is the signature you see there your, in fact,
18 signature?

19 A. Yes.

20 Q. Do you have any corrections you need to make to this
21 testimony?

22 A. No.

23 MS. GILLESPIE: Your Honor, at this time we offer the
24 testimony of Mr. Ackerman and the two exhibits cited therein

25 into evidence.

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1 THE COURT: Any objection?

2 MR. GALVANI: No objection.

3 THE COURT: In evidence.

4 (Joint Exhibits 4075 and 4076 received.)

5 THE COURT: Cross-examination?

6 MR. GALVANI: Yes.

7 CROSS-EXAMINATION

8 BY MR. GALVANI:

9 Q. Mr. Ackerman, do you have the two exhibits in front of
10 you, sir?

11 A. Exhibits 4075 and 4076.

12 Q. Correct. Would you turn please to Exhibit 4076.

13 A. (Witnesses so complies.)

14 All right.

15 Q. Now, this is a monthly report you prepared in July of
16 1977; is that right?

17 A. Yes.

18 Q. Now, by that time, Montrose had ceased discharging a
19 significant portion of its waste for over seven years and of
20 all processed waste for over six years; correct?

21 A. Yes.

22 Q. And further down on that page, there is a section headed
23 "Discharge Limits."

24 Do you see that?

25 A. Yes.

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1 Q. You wrote: "There are no discharge limits for DDT at
2 JWPCP"; correct?

3 A. Correct.

4 Q. And that was true in 1977?

5 A. As I recall, yes.

6 Q. Insofar as you know, it had been true forever, up until at
7 least 1977?

8 It was always true?

9 A. I can't say. I assume so. I mean I'm basing it upon the
10 existing permit issued for that plant.

11 Q. Well, you never heard to the contrary, did you?

12 A. No, I did not.

13 Q. Now, on the next page -- actually, let me ask you to skip
14 to the third page.

15 In the next to last paragraph, you referred to "data
16 from less extensive surveys conducted in 1972 and 1973." And
17 then you say in the third sentence:

18 "One must be cautious in evaluating these
19 results, which were developed from only a few
20 data points with substantial uncertainty."

21 Right?

22 A. Right.

23 Q. And you would certainly agree that one must be cautious in
24 extrapolating from a single data point?

25 A. You can't extrapolate from a single data point.

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1 Q. Now, DDT metabolizes -- breaks down into other products,
2 does it?

3 A. Yes.

4 Q. Is one of those products called ddmu?

5 A. I can't recall. I believe so.

6 Q. Well, would you look at the very last page of this
7 exhibit, please.

8 A. Oh, yeah. I see it there.

9 Q. And do you see "ddmu" about halfway down on the right-hand
10 side?

11 A. Yes, I see it. Yes.

12 Q. Do you know if LACSD ever sampled for ddmu?

13 A. As I understand it, you don't sample for a specific isomer
14 or breakdown product. What you do is you collect everything
15 and then you analyze it in the laboratory and find out what the
16 different components are that are present.

17 Q. I misspoke. I shouldn't have said "sampled."

18 Did LACSD analyze for ddmu, to your knowledge?

19 A. I can only assume so. What they do is they look at a
20 chromatogram and look for the various peaks and see whether
21 there is a peak for it present.

22 Q. But that's an assumption on your part?

23 A. Yes, it is an assumption.

24 Q. You don't know whether they ever analyzed for ddmu?

25 A. I can't say for certain.

1 Q. Now, could I ask you to turn, please, to Exhibit 4075.

2 This is a report you prepared, sir?

3 A. Yes.

4 Q. And when was this report prepared?

5 A. I believe it was 1989.

6 Q. What was the purpose of this document?

7 A. Well, I will have to give you a little background.

8 At that time I was supervisor of water quality
9 monitoring. Our primary task was to report -- to prepare
10 self-monitoring reports to our state regulatory agency.

11 We also did a great deal of other special studies
12 because we had access to a lot of data. One of the ones that I
13 did, sort of for my own interest, was to keep on top of DDT
14 data to see what we had learned as result of the accumulation
15 of data.

16 And so out of my own personal interest, I did this
17 analysis as the supervisor of water quality monitoring. It was
18 just a way of keeping on top of the field in knowing what was
19 going on in the sanitation districts.

20 Q. All right. Now, on the first page of this document, in
21 the -- about two-thirds of the way down, there's a paragraph

22 that begins "TICH."

23 A. Yes.

24 Q. And what does "TICH" stand for?

25 A. Total Identifiable Chlorinated Hydrocarbons. That refers

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1 to, I believe, a collection of 13 chlorinated hydrocarbons, six
2 of which are DDT and its various isomers, two polychlorinated
3 biphenyls and the remainder, other chlorinated pesticides.

4 Q. Now, you go on in that paragraph to say:

5 "In several cases, negative values were
6 calculated for total other pesticides and
7 removals."

8 Does that mean that the LACSD was actually increasing
9 the level of pesticides?

10 A. No. I believe I go on elsewhere in this report to come up
11 with the reason for that apparent negative removal.

12 Q. By "negative removal" you mean increase?

13 A. All right. Apparent increase.

14 Q. And you say that this anomaly -- seeming anomaly -- that's

15 not your word, but this development, you say, "was probably due
16 to the difficulty of analyzing wastewater at the part per
17 billion level"; right?

18 A. Yeah, I say that.

19 Q. And you agreed at the time with that statement?

20 A. Let me take a look at the entire statement again.

21 Yeah.

22 Q. And then you go on to say:

23 "The wastewater contains many interferences and
24 particularly in the earlier years, corrections
25 for the interferences may not have been

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1 adequate."

2 Now, the earlier years would have included 1970 and
3 '71; correct?

4 A. It goes on to say, "See the discussion below on PCPs,"
5 which gives a further explanation.

6 Q. But my question is with respect to your use of the phrase
7 "earlier years." You're including 1970 and '71; is that
8 right?

9 A. Yeah. I believe that is explained down below.

10 Q. Now, would you turn to one of the charts. I believe it's

11 the third chart in. There is a -- it's labeled "JWPCP Mass

12 Flow Rates, Metric Tons Per Year."

13 Do you see that one?

14 A. Oh, it's a table.

15 Q. Yes. I'm sorry. I probably called it a chart.

16 A. Yes.

17 Q. Sorry. It's a table. This table?

18 A. Uh-huh.

19 Q. Now, in this table, you undertake to set forth, based on

20 measurement of influent and effluent, how much DDT in tonnage

21 was being emitted from the White's Point outfall; correct?

22 A. Uh-huh.

23 Q. By that you mean "yes"?

24 A. Yes.

25 Q. And this reflects, does it not, that starting in 1976 and

1 coming forward, it was less than a ton every year?

2 A. Yes.

3 Q. In 1988, it was .02 tons?

4 A. That was the amount in the effluent, .02.

5 Q. Isn't that the metric ton emission?

6 A. Oh, you said "emission"?

7 Q. Yes.

8 A. I thought you meant removal.

9 Yes, that's emission.

10 Q. I'm sorry. I was talking total emissions -- percent

11 removal.

12 A. Okay. Yes.

13 Q. So in 1988, a total of .02 tons came out the outfall;

14 correct?

15 A. Correct.

16 Q. Is it true, to your knowledge, that in fact for every year

17 since then, that number has continued to decline even further?

18 A. I have no information.

19 MR. GALVANI: No further questions.

20 THE COURT: Cross-examination -- redirect,

21 Ms. Gillespie?

22 REDIRECT EXAMINATION

23 BY MS. GILLESPIE:

24 Q. Mr. Ackerman, going to the paragraph on Exhibit 4075, the

25 1989 document that Mr. Galvani was questioning you about, the

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1 paragraph that begins "TICH" --

2 A. Yes.

3 Q. -- in the section entitled -- in the section discussing

4 the negative values for other pesticides and removals, did this

5 refer to DDT or the other pesticides?

6 A. It had to have referred to other pesticides.

7 Q. But not DDT?

8 A. Yes.

9 Q. Okay. And going to Exhibit 4076, again, the third page,

10 under the heading "Removal Efficiencies" --

11 A. Page 2; yes.

12 Q. I think it's page 2 if you don't count the cover letter.

13 You mentioned to Mr. Galvani that you thought that

14 you had explained the removal rates issue.

15 Is this the paragraph in which you explain the

16 removal rates results for DDT?

17 A. Yes.

18 Q. Could you briefly just summarize that for us, please.

19 A. Well, there are three possible explanations. One is that
20 in the treatment process, sewage sludge is produced that passes
21 through a device that removes it by centrifugation and centrate
22 is removed to the waste stream.

23 Part of the sludge is put into digestors, where it is
24 held for about three years. And that three-year lag time,
25 you've got old, very rich DDT in there and then when that is

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1 returned to the waste -- when the centrate is returned to the
2 waste stream, you have three-year-old material.

3 So that can be the explanation for the apparent
4 increase in DDT in the waste stream.

5 It would be clearer if I just read it.

6 Q. Well, it's already in evidence so I don't think we need to
7 do that.

8 I guess you've explained that -- in that paragraph,
9 you do give an explanation for DDT and you have now affirmed
10 that that is still your understanding of why the removal rates
11 have come out negative?

12 A. Uh-huh.

13 Q. Given this explanation, is it your testimony that the
14 effluent concentrations on the chart on the other exhibit,
15 giving the JWPCP concentrations in micrograms per liter, which
16 do at some times have a negative removal rate -- that those
17 effluents are in fact correct?

18 MR. GALVANI: Objection.

19 THE COURT: Objection is overruled.

20 THE WITNESS: Yes, they are correct.

21 BY MS. GILLESPIE:

22 Q. So just clarify, for example, in year 1971, the effluent
23 of 43.99 micrograms per liter of DDT is in fact what was being
24 emitted from the facility?

25 A. Yes.

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1 MS. GILLESPIE: Thank you.

2 THE COURT: Any cross?

3 MR. GALVANI: Just briefly.

4 RECROSS-EXAMINATION

5 BY MR. GALVANI:

6 Q. Mr. Ackerman, the third of your three explanations for
7 this negative removal is, quote: "The analysis for chlorinated
8 hydrocarbons is very difficult in the dirty JWPCP effluent"?

9 A. I made that statement. That is based on conversations
10 that I have had, not as a real chemist who was involved in
11 doing the actual analyses.

12 I can't really pretend to be an expert in that area.

13 Q. You are not an expert?

14 A. Not in the chemical analyses. I was analyzing data that I
15 received from others.

16 Q. Just so I'm clear, Ms. Gillespie asked you about a table
17 that I had shown you. Which table was that?

18 Which table were you looking at, sir, when you
19 answered her question?

20 THE COURT: Mass flow rates.

21 THE WITNESS: Yeah.

22 BY MR. GALVANI:

23 Q. On which exhibit?

24 A. That would be 4075. It would be the table labeled "JWPCP
25 Mass Flow Rates."

1 Q. The metric tons per year?

2 A. That's correct.

3 Q. You have in 1971, an apparent negative removal rate of

4 5.08 metric tons per year and in 1975, an apparent negative

5 removal of .22 metric tons per year.

6 A. Yes.

7 Q. Thank you, sir.

8 A. You are welcome.

9 THE COURT: Anything further?

10 You may step down.

11 We'll take our afternoon recess.

12 THE CLERK: All rise. This court is now recessed for

13 ten minutes.

14 (Recess taken.)

15 THE COURT: All right. Call your next witness.

16 MR. O'ROURKE: The plaintiffs call David Young.

17 THE CLERK: Please come forward.

18 Would you raise your right hand.

19 DAVID YOUNG, PLAINTIFFS' WITNESS, SWORN

20 THE WITNESS: Yes.

21 THE CLERK: Please be seated.

22 For the record, sir, would you please state your full
23 name and spell your last name.
24 THE WITNESS: My name is David R. Young, Y-o-u-n-g.
25 /

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1 DIRECT EXAMINATION

2 BY MR. O'ROURKE:

3 Q. Mr. Young, if you would open the binder in front of you.

4 Could you take a look at the direct testimony.

5 Do you recognize that as your direct testimony for this
6 trial?

7 A. Yes, I do.

8 Q. And behind that is an errata sheet?

9 A. I'm sorry, I don't see the errata sheet.

10 Q. Okay. It may be stapled to the back of the testimony.

11 I have additional copies I can bring up. I'll bring them
12 up to the clerk.

13 A. Yes, this is the errata sheet.

14 Q. With those corrections, is your testimony true and
15 accurate?

16 A. Yes.

17 Q. If you could turn to paragraph 6 of your testimony.

18 A. I have it.

19 Q. Okay. And it refers to an "intercalibration exercise."

20 What does that mean?

21 A. That means you're comparing results -- conducting a test

22 to compare results from two different samplings and/or

23 measurement systems -- entities.

24 Q. And what were you comparing in this particular instance?

25 A. In this particular instance -- actually, I wasn't doing

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1 the comparing at this point. This was a comparison that I

2 became aware of and it was actually compared -- conducted

3 between the marine laboratory and the County Sanitation

4 Districts of Los Angeles County.

5 I came into the process as it was under way between

6 Dr. Risebrough and the County sanitation district management.

7 MR. GALVANI: Well, Your Honor, I object. Move to

8 strike. So much of his testimony is obvious hearsay.

9 THE COURT: The objection is sustained.

10 MR. O'ROURKE: Okay. Absent that paragraph then,
11 move the statement into evidence with the attached exhibit.

12 THE COURT: Any objection?

13 MR. GALVANI: No objection.

14 THE COURT: In evidence. That was No. 2.

15 (Joint Exhibit 2 received.)

16 THE COURT: Cross-examination?

17 CROSS-EXAMINATION

18 BY MR. GALVANI:

19 Q. Mr. Young, you first went to work for SCCWRP in September
20 1970; is that right?

21 A. Yes. September 1st.

22 Q. Now, you used the acronym SCCWRP or the shorthand SCCWRP.

23 That's "S-C-C-W-R-P."

24 What does that stand for?

25 A. Southern California Coastal Water Research Project.

1 Q. And who are the constituent members of SCCWRP? Do you
2 know?

3 A. At that time when I was part of the organization, it was a
4 joint powers agreement between five local governments: Ventura
5 County, actually representing the Oxnard City Treatment Plant;
6 Los Angeles City; Los Angeles County; Orange County; and
7 San Diego County, representing the City of
8 San Diego.

9 Q. And did it receive funding from any outside agency?

10 A. Yes.

11 Q. From whom?

12 A. Some of the outside funders were the United States
13 Environmental Protection Agency and the National Oceanic and
14 Atmospheric Administration.

15 Q. Now, as I understand it, shortly after you went to work
16 for SCCWRP, you were funded by the EPA to perform a study; is
17 that right?

18 A. I wasn't funded personally. The organization was funded
19 and I was the principal investigator on it.

20 Q. And what was the investigation that you conducted?

21 A. The purpose of the investigation was to document the
22 amount of chlorinated hydrocarbons that were entering Southern
23 California Bight through major candidate routes.

24 Q. Now, when did you start that work?

25 A. The grant was made by EPA, if I recall correctly, in --

1 around mid-1972. And we began our work, if I'm remembering
2 correctly, near the end of 1972 or the beginning of 1973, that
3 part of it that was funded by EPA.

4 Q. Now, before you undertook to do your work, did you search
5 the files of SCCWRP to see if any similar work had been
6 recently conducted?

7 A. I don't remember.

8 Q. Well, did you ever learn that, in fact, SCCWRP had
9 conducted a study in 1971 of contaminant inputs to the Southern
10 California Bight?

11 A. Well, I was running the chemistry program at that time, so
12 I believe I would have known about it, but I'm not making a
13 connection. I'm sorry.

14 Q. Well, let me show you Exhibit 3335, if I may, entitled the
15 "Ecology of the Southern California Bight: Implications for
16 Water Quality Management."

17 Have you ever seen that document before, sir?

18 A. Yes. I wrote substantial sections of it.

19 Q. So you were aware of this document when you undertook your
20 subsequent study?

21 A. Yes. Certainly.

22 Q. And this study was prepared -- this Exhibit 3335 was
23 written in 1973; is that right?

24 A. Yes.

25 Q. Now, do you recall that this study considered advective

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1 transport into the Southern California Bight?

2 A. Yes. I wrote that section, too.

3 Q. Specifically, did you write the section at page 113?

4 A. Yes. I'm quite certain I had substantial input to that
5 section at least.

6 Q. What is that "advection"?

7 A. "Advection" is a process by which something is
8 transported.

9 Q. And in this case, it specifically was transported on the
10 California Current; is that correct?

11 A. Yes. That's the reference in this context, as I
12 understand it.

13 Q. The California Current starts north and comes down south

14 to the Bight; correct?

15 A. That's correct.

16 Q. Now, on page 113, you wrote a section entitled -- or

17 subsection entitled "Mass Emission Rates"; correct?

18 A. Correct.

19 Q. We have this on the board here.

20 Now, what did you report as to the mass transport rate by

21 means of the California Current into the Southern California

22 Bight for DDT?

23 A. The --

24 Q. Please. That's a number --

25 A. Repeat the question. I'm sorry.

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1 Q. What was the number that you wrote was the mass transport

2 of DDD into the Southern California Bight on the California

3 Current?

4 A. I wouldn't have remembered it. It's listed, of course, as

5 200 metric tons here.

6 Q. Well, does that refresh your memory now that you see it?

7 A. It refreshes my memory in the sense that I remember making
8 the calculation.

9 Q. Well, you wrote it into this official SCCWRP report?

10 A. Right. Yes.

11 Q. And it was this work that in part led to your funding by
12 EPA for your next endeavor, wasn't it?

13 A. I don't know that, no. I don't know what --

14 Q. Well, it preceded your next endeavor, didn't it?

15 A. Yes, because this would have been written -- I can't say
16 for sure because the date of this document is March '93 and we
17 had -- the grant had been made, I believe, by March '73. So in
18 that sense, I can't say it predated it.

19 Q. You said it was March '93, I think you said. March '73 it
20 was written?

21 A. Sorry. March 1973 it was written.

22 Q. Now, would you turn to the findings in this report,
23 please, at page 414.

24 Are you there?

25 A. Yes, I am.

1 Q. Do you see paragraph 11.2.1: "Inputs to the Bight" --

2 A. Yes.

3 Q. -- "Diffuse Nonpoint Source."

4 Now, what's a "point source"?

5 A. A "point source" is -- a "point source" is a flow that you

6 can attribute to a specific activity such as a municipal

7 wastewater treatment plant, as I would --

8 Q. And a "nonpoint source" would be, for example,

9 agricultural runoff?

10 A. Yes. It's referred to in those senses; that's right.

11 Q. Now, there is agricultural runoff of DDT, is there not?

12 A. I believe there is.

13 Q. And you believed that in 1973 when you were working on

14 this report?

15 A. Yes.

16 Q. And that runoff comes down through the various drainages

17 that drain the agricultural land out into the ocean?

18 A. If that's what you're sampling, yes, if you're sampling an

19 agricultural area.

20 Q. Well, then it enters the California Current and goes

21 south; right?

22 A. Not always. It might go north.

23 Q. Well, in this case, what you measured was going south?

24 A. First of all, I didn't measure it. I calculated it.

25 And what I was calculating was based upon some

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1 concentrations of DDT in water -- I don't remember their source
2 right now -- and multiplied by a value which was an estimate of
3 the advective south -- in this case southward flowing volume of
4 water known as the California Current.

5 However, that's an offshore current. And between the
6 California Current, which flows south, and the land, there is
7 sometimes a northward-flowing current known as the Davidson
8 Current.

9 Q. Well, you didn't say that in this report, did you?

10 A. No. But I wasn't --

11 Q. Well, I want to direct your attention, please, to
12 paragraph 11.2.1: "Diffuse Nonpoint Sources." Paragraph 1,
13 you wrote, did you not, as follows:

14 "There are a number of potentially significant
15 materials entering the Bight" --

16 That's the Southern California Bight?

17 A. That's correct.

18 Q. -- "from widely distributed sources. Large

19 quantities of constituents, organics, nutrients,

20 metals, et cetera, are brought into the Bight by

21 the California Current."

22 A. Yes.

23 Q. You didn't say they're brought beyond the Bight or in the

24 opposite direction.

25 A. I don't see anything wrong with that statement.

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1 Q. "This source" -- you went on -- "is often ignored

2 because many of the constituents are present

3 only in extremely low concentrations, but the

4 massive flow of the current, on the order of 14

5 million gallons per day, results in total

6 constituent inputs that can far overshadow the

7 quantities entering the Bight from all other

8 sources."

9 Correct?

10 A. Correct.

11 Q. And among those other sources would be the White's Point
12 outfall?

13 A. Yes, depending upon the constituent.

14 Q. There is no question pending.

15 Now, you calculated 200 metric tons a year. And do you
16 recall how many tons you estimated from all other sources
17 including the White's Point outfall?

18 A. No, I can't remember that number precisely.

19 Q. Would you look at page 116, please. Table IV-35.

20 Do you have that?

21 A. Yes, I do.

22 Q. And directing your attention to the first column. That's

23 "Waste" -- actually, it's the one numbered 1: "Wastewater
24 Discharge"?

25 A. Yes.

1 Q. And if you go down to the total DDT, 19.

2 A. Yes, I see that.

3 Q. So that's 19 tons coming in from all outfalls, of which
4 White's Point would be one?

5 A. That's correct.

6 Q. Per year?

7 A. That was the calculation at that time.

8 Q. And advective transport on the California Current coming
9 into the Bight, 10 times as much?

10 A. About that, yes.

11 Q. Now, you then went out and did your study funded by EPA;
12 correct?

13 A. Part of the study was funded by EPA.

14 Q. Well, you wrote in a press release, didn't you, that you
15 were under a grant from the US EPA?

16 A. I don't recall that press release.

17 Q. Well, that work resulted in a report which has been
18 introduced into evidence as Exhibit 4072; correct?

19 A. I don't know. I'm sorry.

20 Q. Do you have that article in front of you?

21 A. Are we talking about the 1976 General Water Pollution
22 Control Federation article?

23 Q. Well, take a look at paragraph 9 of your declaration,
24 please.

25 A. All right.

1 Q. Dr. Young, do you see at lines 10 and 11, or 11 and 12 --

2 A. Yes.

3 Q. -- you say you used a portion of this data in preparing my
4 article, "DDT in Sediments and Organisms around Southern
5 California Outfalls"; correct?

6 A. Yes.

7 Q. That's the article, Exhibit 4072, that was admitted into
8 evidence; right?

9 A. Excuse me. I'm still confused. Are you referring to the
10 journal article or the report that --

11 Q. I'm referring to the article that the plaintiffs offered
12 into evidence, your journal article, Exhibit 4072.

13 A. Thank you.

14 Q. You say this article used only a portion of the data that
15 you had developed in your basic work; correct?

16 A. Well, I'm sure it did, just because no one article would
17 include all of the work that preceded such a summary.

18 Q. Well, the entire report you referred to in the prior
19 sentence entitled "A Synoptic Survey of Chlorinated Hydrocarbon

20 Inputs to the Southern California Bight" --

21 A. Yes. That's a separate document, of course.

22 Q. -- that's a big document; right?

23 A. It is a big document.

24 Q. And then you excerpted that to write 4072?

25 A. I didn't excerpt the report, because the report wasn't

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1 published until several years later. But I used the data that

2 went into that report to write this article.

3 Q. Well, you didn't use the data from the synoptic survey

4 about advection, did you?

5 A. I don't believe I did, no.

6 Q. And you didn't offer the synoptic survey into evidence

7 today, did you?

8 A. No -- well, I offered this synoptic survey in the --

9 not -- I referred to it in my testimony.

10 Are you referring to the -- I don't know what you're

11 referring to specifically.

12 Q. I'm referring to your big report, the synoptic survey --

13 A. Yes.

14 Q. -- not the article that has been received in evidence.

15 You didn't bring with you the big report, the

16 synoptic survey?

17 A. I actually did bring it with me.

18 Q. Oh, you have it with you. Now, that survey, in fact, does

19 include that analysis of advection, doesn't it?

20 A. I believe it does. I would have to check the tables, but

21 I believe you are correct in that.

22 Q. Well, you remember, don't you, sir, that you went out and

23 measured the water column at Point Conception?

24 A. No, I did not.

25 Q. Well, somebody with your project did?

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1 A. Possibly so. I do not recall who that was.

2 Q. You don't recall that that happened?

3 A. No, I don't.

4 Q. Well, perhaps it would refresh your recollection if you

5 were shown Exhibit 19044. And if you would turn to page 33.

6 A. Yes.

7 Q. This is section Roman XI. It's entitled "Ocean Current
8 Advection"; correct?

9 A. That is correct.

10 Q. And it describes, does it not, Dr. Young, part of the
11 study that you and your colleagues performed that led to the
12 paper that you brought with you today?

13 A. I remember now being involved in this phase of the
14 research. I don't remember that it led to the subjects that I
15 was reporting in this particular journal article.

16 Q. Your basic report that you went out to conduct that was
17 dated 1976 --

18 A. Yes.

19 Q. -- included the Section XI entitled "Ocean Current
20 Advection," and it described, did it not, a study that was
21 conducted by you and your colleagues of how much DDT was in the
22 water column advecting into the Southern California Bight on
23 the California Current?

24 A. I don't believe so. You just said the 1976 article. I
25 don't believe the 1976 article included ocean advection.

1 Q. No, I didn't mean to refer to the article. The synoptic

2 survey, Exhibit 19044, is submitted June 1976.

3 A. It's revised June '80. I apologize. I think of it as a

4 June '80 document. I apologize.

5 I understand what you're referring to now, yes.

6 Q. In this report, Dr. Young, to cut through it, you

7 reported, did you not, that you and your colleagues sampled the

8 water at Point Conception to try to determine how much DDT was

9 advecting on the ocean current into the Southern California

10 Bight?

11 A. Yes. I remember now, yes. I believe we did start up near

12 Point Conception and traveled south, sampling with these

13 buckets. And the purpose was to get some idea of what material

14 would be advecting in with the ocean waters into the Southern

15 California Bight.

16 Q. And you found, did you not, seven tons of DDT?

17 A. I can't remember the number.

18 Q. You can't remember that number?

19 A. No.

20 Q. Well, take a minute, if you would, and look in the --

21 A. What page?

22 Q. Page 33, four lines from the bottom.

23 A. It says: On the order of or approximately 7,000 kilograms

24 actually, so that would be seven metric tons.

25 Q. Seven metric tons. So that's a little bit more than seven

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1 tons -- seven other tons?

2 A. English.

3 Q. English tons.

4 A. Yes.

5 Q. Now, 1973 was a dry year?

6 A. I don't remember.

7 Q. 1969 was a wet year, wasn't it?

8 A. I certainly remember that.

9 Q. And is it not the case that storms in this part of the

10 country are episodic, that there will be big storms, and then

11 nothing for a while and then another big storm?

12 A. That's my experience.

13 Q. And in fact, there is more DDT runoff during a big storm

14 than during a dry year?

15 A. That's also what I would expect.

16 Q. So you would have expected to find fewer tons in 1973 than

17 back in 1969 being advected in the ocean current?

18 A. Not necessarily because there is another complication,
19 which is aerial fallout. And you can get -- remember, we were
20 sampling just the very near surface of the water and yet the
21 water column is many meters deep.

22 And when we were out there sampling, there was a
23 Santa Ana condition which could have brought an unusual amount
24 of air pollutants and the constituents that they carry with us.

25 Q. From the agricultural fields?

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1 A. From any source. Any source.

2 Q. And that material would end up in the top one meter of the
3 water?

4 A. Not necessarily limited to that, but certainly that would
5 be where part of it would be.

6 Q. Well, didn't you write that that would be where the bulk
7 of it would be?

8 A. I don't believe that I did. I don't remember doing that.

9 Q. Well, the last sentence says:

10 "In view of fact that the sea water samples
11 were collected from the upper meter during the
12 Santa Ana desert wind condition, these values
13 are probably upper level estimates."
14 A. Yes.
15 Q. So you measured the top one meter only?
16 A. Oh, yes.
17 Q. You didn't go down below?
18 A. No, we did not.
19 Q. So you don't know how much DDT might have been advecting
20 in below one meter?
21 A. We have no idea.
22 Q. It might have been a billion tons?
23 MS. BYRD: Objection, Your Honor.
24 THE COURT: The objection is sustained.
25 /

1 BY MR. GALVANI:
2 Q. Now, the DDT in the top one meter, you would agree, would
3 you not, Dr. Young, is significantly bioavailable to small

4 fish?

5 MR. O'ROURKE: Objection. He is asking for an expert
6 opinion.

7 THE COURT: The objection is sustained.

8 BY MR. GALVANI:

9 Q. Well, did you ever analyze, sir, whether the DDT in the
10 top one meter of the water would be more bioavailable than that
11 contained in the sediments at 200 to 300 feet deep?

12 A. No.

13 Q. Now, are you familiar with the rivers along the California
14 coast?

15 A. Some of them.

16 Q. Are you familiar with the Santa Clara River?

17 A. I know where it is.

18 Q. And do you know where that comes out approximately into
19 the Southern California Bight?

20 A. It's in the vicinity of Point Conception. I believe it's
21 to the north of Point Conception.

22 Q. Is it near Anacapa Island?

23 A. I believe it is.

24 Q. Do you know whether that river has been tested for
25 presence of DDT from agricultural sources?

1 A. As I recall, that was one of the rivers included in my
2 survey.

3 Q. And did that, in fact, reflect levels of DDT in that
4 water -- that watershed?

5 A. At the time that I sampled them, yes -- that portion.

6 Q. By the way, are you familiar with the work of Robert
7 Eganhouse and Indira Venkatesan?

8 A. I know both of those individuals. I don't know which
9 product you're talking about.

10 Q. Well, did you ever discuss with either of them the SCCWRP
11 work that had been done in 1971 where you estimated 200 metric
12 tons?

13 A. I don't recall discussing that subject with either of
14 them.

15 Q. Well, did you ever read their report where they said that
16 you actually underestimated the volume of water coming in on
17 the California Current and, in fact, your 200 tons were low by
18 perhaps as much as 370 additional tons?

19 MS. BYRD: Objection.

20 THE COURT: The objection is sustained.

21 BY MR. GALVANI:

22 Q. Are you familiar with the Toxic Substance Monitoring

23 Project?

24 A. No.

25 Q. Well, I named it wrong. The Toxic Substance Monitoring

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1 Program, not project.

2 Are you familiar with that?

3 A. Is that a program with the State of California?

4 Q. It's a program of the Water Resources Control Board that

5 lists you as program consultant.

6 A. I'm not remembering directly which -- I'm not remembering

7 the activity or the document that you have there.

8 Q. Well, let me show you the document, Exhibit 9477, and ask

9 you if it refreshes your recollection.

10 Are you familiar with this document?

11 A. No, not with the document.

12 Q. Were you a program consultant for this organization with

13 respect to this project?

14 A. Yes, I believe I was. I want to check that, but I -- yes,
15 I was a consultant to this program. I remember, yeah.
16 Q. When did this program take place?
17 A. Sometime after 1973 and before 1980. I can't be more
18 precise.
19 Q. Well, this report covers the 10 years -- it's a 10-year
20 summary report for the years 1978 to 1987.
21 A. Right.
22 Q. And it lists you as a program consultant. Were you a
23 program consultant for those 10 years?
24 A. Not for 10 years, no.
25 Q. For some portion of those 10 years?

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1 A. Yes.
2 Q. Are you aware that this report reflects results --
3 THE COURT: Were you a consultant?
4 THE WITNESS: Oh, yes. Yes.
5 MR. GALVANI: Excuse me, Your Honor.
6 BY MR. GALVANI:

7 Q. Were you aware that this report includes analyses of
8 various watersheds around the state and toxic levels?

9 A. Yes.

10 Q. And are you aware that DDT was found in a great many
11 species throughout the state?

12 A. Not aware of it, but I would be very surprised if it were
13 not.

14 MR. GALVANI: No further questions.

15 THE COURT: Redirect.

16 REDIRECT EXAMINATION

17 BY MR. O'ROURKE:

18 Q. Dr. Young, Mr. Galvani pointed your attention to a figure
19 from your 1973 report for 19 tons coming out of point sources.

20 A. Yes. Actual wastewater, wasn't it?

21 Q. Wastewater. Was that for dates after the time that
22 Montrose disconnected from the sewer system?

23 A. Yes.

24 Q. And he pointed your attention to a figure for 200 tons per
25 year advecting into the Southern California Bight?

1 A. An estimate, yes.

2 Q. Do you believe that that estimate is a correct estimate?

3 MR. GALVANI: Objection.

4 THE COURT: The objection is overruled.

5 THE WITNESS: I have difficulty with this because it

6 is a different kind of -- different kind of calculation, a

7 different magnitude intensity of study, if you will.

8 Physical oceanography is a very complex subject.

9 Characterizing the ocean currents is a very complicated subject

10 and measuring these compounds at that time in water was a very

11 difficult task. Obtaining a representative sample was a

12 difficult task.

13 So when you multiply a flow by a concentration, yes,

14 you get a number, but that doesn't mean you have a specific

15 confidence in the likely range of the values that really might

16 also be as good a number.

17 MR. GALVANI: I move to strike as nonresponsive.

18 THE COURT: That motion is denied.

19 BY MR. O'ROURKE:

20 Q. Mr. Galvani was comparing the 19-ton figure to the 200-ton

21 figure. Is it an appropriate comparison to compare the mass of

22 DDT from advection to the mass of DDT to discharge to the

23 municipal outfalls?

24 MR. GALVANI: Objection.

25 THE COURT: The objection is overruled.

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1 THE WITNESS: I would have to know appropriate to
2 what, the question you were trying to answer, as to whether
3 that would be an appropriate comparison. What is the issue at
4 hand?

5 BY MR. O'ROURKE:

6 Q. Bioavailability.

7 MR. GALVANI: Objection, Your Honor. He is not an
8 expert.

9 THE COURT: The objection is sustained.

10 MR. GALVANI: Your Honor excluded evidence on that
11 when I asked him.

12 BY MR. O'ROURKE:

13 Q. You also mentioned that aerial dispersion was a potential
14 source in some of the samples you took?

15 A. Yes.

16 Q. Could any of that aerial dispersion have come from the

17 Montrose plant?

18 MR. GALVANI: Objection.

19 THE COURT: The objection is overruled.

20 THE WITNESS: Yes, I believe it could.

21 MR. O'ROURKE: Thank you.

22 THE COURT: Cross?

23 RECROSS-EXAMINATION

24 BY MR. GALVANI:

25 Q. What year did Montrose go off the sewer line?

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1 A. 1970 is the major termination. As I understand, the

2 absolute last connection was made in 1971.

3 Q. And so they were still on the sewer line in part of 1971?

4 A. That's my understanding.

5 Q. And when was -- when did SCCWRP take the data, the

6 measurements that are reflected in that Exhibit 3335?

7 A. Our first samples of wastewater from the Joint Water

8 Pollution Control Plant, I believe, were made in March of 1973

9 or at least spring of 1973.

10 Q. Not yours.

11 A. Excuse me.

12 Q. Not yours. The report in front of you, Exhibit 3335 --

13 when were those results taken? The report -- that one that you

14 have your hands on.

15 A. Oh, yes. I'm having trouble answering because I was

16 associated, although I may not have been directly involved in

17 taking samples, and I don't know how to properly answer you,

18 Counselor.

19 Q. Well, what's your best recollection as to when the samples

20 were taken?

21 A. Well, samples were taken in March 1971, in March and April

22 of 1972, and in March and other parts of the spring of 1973.

23 Q. Well, the report was written in 1973.

24 A. Yes.

25 Q. March of '73, so I don't think --

1 A. No, you're quite right. I'm sorry.

2 Wastewater samples continued to be taken, but

3 obviously, only part of that sequence was used for this

4 report. That's quite right. And I would have to check to see

5 which ones were used.

6 Q. Dr. Young, you don't know when the samples were taken, do

7 you?

8 A. Which samples?

9 MR. GALVANI: Your Honor, I would move into evidence

10 Exhibits 3335, 19044 and 9477.

11 THE COURT: Any objection?

12 In evidence.

13 (Joint Exhibits 3335, 19044 and 9477 received.)

14 MR. O'ROURKE: He said he didn't recognize 9477.

15 THE COURT: That's this one (indicating).

16 Anything further of Mr. Young?

17 MR. O'ROURKE: No, we are finished.

18 THE COURT: When were you a consultant on the Toxic

19 Substance Monitoring Program?

20 THE WITNESS: I can't remember precisely. The reason

21 that I say it was after 1973 -- was when our new director,

22 Willard Baskin, joined. And he permitted the staff to consult

23 as experts outside their study areas.

24 And I was consulting for the state on methods of

25 better obtaining representative samples of contaminants in fish

1 and perhaps water. I can't even remember that, but certainly
2 fish.

3 Their program was archaic and so I was giving them
4 advice on how to better obtain a more representative sample of
5 fish in their statewide monitoring program. It was a quality
6 assurance level of activity as opposed to a site-specific level
7 of activity.

8 THE COURT: Do you have any recollection of when that
9 was?

10 THE WITNESS: I'm going to say around 1976, but it
11 could have been as late as 1978. But I think it was early.

12 THE COURT: As late as what?

13 THE WITNESS: As 1978. But I believe it was -- well,
14 the program was just getting started, which would have been the
15 mid-1970s, but I don't have a precise recollection.

16 THE COURT: Were you consulted on anything having to
17 do with water sampling in that project?

18 THE WITNESS: If so, I don't think I had a lot to
19 contribute to it. I can't remember specifically. The emphasis
20 was on the fish.

21 THE COURT: Thank you.
22 Call your next witness.
23 You may step down.
24 MR. SPECTOR: Your Honor, at this time, we would like
25 to call Allan Chartrand.

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1 THE CLERK: Please come forward.
2 Please raise your right hand.
3 ALLAN CHARTRAND, PLAINTIFFS' WITNESS, SWORN
4 THE CLERK: Please be seated.
5 For the record, sir, would you please state your full
6 name and spell your last name for the record.
7 THE WITNESS: Allan Chartrand, C-h-a-r-t-r-a-n-d.
8 DIRECT EXAMINATION
9 BY MR. SPECTOR:
10 Q. Good afternoon, Mr. Chartrand.
11 I would like you to think back to the year 1985. Were you
12 employed in 1985?
13 A. Yes, sir, I was.

14 Q. By whom?

15 A. I was employed by the Los Angeles Regional Water Quality
16 Control Board.

17 Q. And what was your position with the water board in 1985?

18 A. I was a water quality scientist and environmental
19 specialist.

20 Q. And what were your job duties at the time?

21 A. I was in charge of helping to regulate both marine and
22 fresh water quality issues.

23 Q. Would you please turn to Exhibit 2572 in your binder.

24 A. (Witness so complies.)

25 Okay.

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1 Q. Do you recognize this document?

2 A. Yes, sir, I do.

3 Q. And what is Exhibit 2572?

4 A. This is the ocean dumping report that I was the senior
5 author of in 1985.

6 Q. Would you please turn to the third page of the report.

7 A. Okay.

8 Q. And what is that third page?

9 A. This is a board resolution. We submitted the report to
10 the board for resolution and they passed it, as you see here.
11 And it was signed by the CEO of the regional board.

12 Q. And what was the effect of their passing the resolution?

13 A. It incorporated the report into the record and it affirmed
14 that certain follow-up actions would take place.

15 Q. What was your purpose in drafting the ocean dumping
16 report?

17 A. There was concern about ocean dumping --

18 MR. GALVANI: Objection.

19 THE COURT: The objection is overruled.

20 BY MR. SPECTOR:

21 Q. Please continue.

22 A. There was concern about ocean dumping activities in the
23 San Pedro Basin and Santa Monica Basin in deep waters. And in
24 response to this public concern, I was asked to draft an ocean
25 dumping report by my boss, Bob Ghirelli.

1 Q. And what steps did you take in creating this report?

2 A. I assembled a team of coauthors and we brought the boxes
3 of ocean dumping files from the regional board files, which
4 were pretty extensive, and we identified gaps in the data and
5 we got additional data from, as I remember, the L.A. City
6 engineer and the L.A. County engineer.

7 Q. And did you include any factual findings in the ocean
8 dumping report as a result of this investigation?

9 A. Yes, sir, we did.

10 Q. And did any of those factual findings relate to Montrose?

11 A. Yes. A large percentage of them did.

12 Q. Can you summarize briefly for us which ones related to
13 Montrose.

14 A. Montrose was basically the reason we did the report. And
15 the report focused on the dumping of acid waste, of DDT acid
16 waste out on the ocean dumpsites. That was pretty much the
17 emphasis of the report.

18 Q. Could you please turn to page number 15 in the ocean
19 dumping report.

20 A. Okay.

21 Q. And could you read for us the first two sentences of
22 paragraph 2.

23 A. "Montrose Chemical Company of Torrance, California, was

24 for 35 years" --

25 MR. GALVANI: Just a moment, please. The copy that I

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1 have, Your Honor, doesn't have -- the pages do not line up, so

2 I don't have the page --

3 THE COURT: My page 15 (indicating).

4 MR. GALVANI: There are multiple copies of this

5 document and we were told that you were going to use a

6 different copy from the one you are using.

7 MR. SPECTOR: Your Honor, we have -- I understand

8 Mr. Galvani's comment. We had originally listed Exhibit 2571

9 in the declaration.

10 When we noticed that there were missing pages, we

11 wrote Mr. Galvani a letter indicating that we would be filing

12 an errata saying that we were using Exhibit 2572, which

13 contains the missing pages.

14 You, I, and the witness do have Exhibit 2572.

15 MR. GALVANI: Could I have just one second to get

16 that version, Your Honor.

17 THE COURT: Sure.

18 MR. GALVANI: I'm sorry.

19 (Pause.)

20 MR. GALVANI: Your Honor, my recollection is the
21 letter said the opposite, that they were going to use 7571.

22 That's why I have that one out here.

23 Do you have another copy?

24 MR. SPECTOR: I believe we do. I believe you also
25 used it in your opening statement this morning.

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1 MR. GALVANI: I didn't give the opening statement.

2 MR. SPECTOR: Oh, your co-counsel.

3 MR. WOLKOFF: I didn't use it, Your Honor.

4 MR. GALVANI: Thank you.

5 (Pause.)

6 MR. GALVANI: Your Honor, I object to the first two
7 sentences that he is being asked to read as pure hearsay and no
8 foundation, an opinion.

9 MR. SPECTOR: Your Honor, as we have already
10 established, this is a public record and under Beach Air (ph),

11 the factual findings are --

12 THE COURT: The objection is overruled.

13 THE WITNESS: Read it?

14 BY MR. SPECTOR:

15 Q. Please continue, yes.

16 A. "Montrose Chemical Company of Torrance, California,

17 was for 35 years, from 1947 to '82, the sole

18 manufacturer of DDT in California and the

19 largest manufacturer in the U.S. Records from

20 the years '57-58 show that 2,000 to 3,000

21 barrels a month of waste acid sludge (estimated

22 to contain 5,000 to 10,000 ppm, which is

23 equivalent to .5 to 1 percent of total DDT were

24 barged to Ocean Dumpsite Number 1."

25 Q. Could you also read the footnote at the bottom of the

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1 page.

2 A. "Based on quantities of acid sludge disposed through

3 CSC" -- which is California Salvage -- "for '57

4 and '58, the following calculations for the

5 14-year dumping period of Montrose Chemical has
6 been made. Average number of barrels per month
7 is 2416. Estimated concentration of DDT and
8 acid sludge is .5 to 1 percent for an average .5
9 DDT concentration in the acid waste stream.
10 Montrose would have dumped about 348 metric tons
11 over the 14-year period, and for 1 percent,
12 about 696 metric tons."

13 Q. Thank you. So for purposes of your report, did you
14 provide an estimate of the DDT content of Montrose's acid
15 waste?

16 A. Yes, sir, we did.

17 Q. And what, again, was that estimate?

18 A. Well, the content -- the concentration was from .5 percent
19 to 1 percent of DDT in the acid waste.

20 Q. Would you please turn to Exhibit Number 532 in your
21 binder.

22 A. (Witness so complies.)

23 Okay.

24 Q. And could you please read for us the middle paragraph of
25 section 2, which is on the second page of this document.

1 A. "This acid is presently either shipped to Henderson
2 or out to sea. Normally, the acid shipped is
3 essentially free of DDT. During a period of
4 unbalance, the separator acid storage tank is
5 susceptible to a very rapid accumulation of
6 DDT. As the amount of DDT builds up in this
7 tank, the percentage of DDT in the shipped acid
8 increases. This varies from a trace to 9
9 percent DDT."

10 Q. I believe earlier you mentioned Cal Salvage. What is Cal
11 Salvage?

12 A. Cal Salvage, among other things, towed industrial waste
13 for sea disposal. They towed it to sea.

14 Q. Okay. Now, when you read from page 15 of the ocean
15 dumping report a minute ago, you referenced certain records for
16 the years 1957 and '58.

17 A. Yes, sir.

18 Q. Could you please look at Exhibit Numbers 572, 592 and 619
19 in your binder.

20 A. Okay.

21 Q. Do you recognize those documents?
22 A. Yes, sir.
23 Q. What are they?
24 A. Those are dumping manifests, which documented the
25 quantities of acid waste taken out to sea.

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1 Q. And are those the records that you reference in your ocean
2 dumping report?
3 A. They appear that they are.
4 Q. Is Montrose listed on those documents?
5 A. Well, the print is pretty small.
6 Yes. There they are, yes. Exhibit 572.
7 Q. Okay. Let's go back to the ocean dumping report,
8 Exhibit 2572. Could you please turn to page 8.
9 A. (Witness so complies.)
10 Okay.
11 Q. Do you reference on page 8 the location of the ocean
12 dumpsites used by California Salvage?
13 A. Yes.
14 Q. And where were those dumpsites located?

15 A. Looks like the third paragraph down, Dumpsite 1 is three
16 nautical miles at latitude west 33 37' and longitude West 118
17 and 40', 10 nautical miles northwest of Catalina Island.

18 Q. And Dumpsite 2?

19 A. Two paragraphs down, Dumpsite 2 is at latitude 33 34' and
20 longitude 118 27'.

21 Q. Could you, using the laser pen, please identify the
22 location of those dumpsites on the satellite photo.

23 A. Roughly, there is the PV Peninsula, there's Catalina and
24 Dumpsite 1 was further out, approximately there (indicating),
25 and it was much further.

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1 And Dumpsite 2 was much closer. It was approximately
2 there (indicating).

3 Q. Have you ever visited the location of the ocean dumpsites?

4 A. Yes, sir, I have twice.

5 Q. When was that?

6 A. We conducted a follow-up study in -- the first time I
7 visited was July of 1985, and the second time was in November

8 of 1985.

9 Q. Why did you conduct a follow-up study?

10 A. We wanted to confirm or refute whether or not
11 accumulations of DDT were occurring in deep water sediments and
12 in associated biota.

13 Q. Were you present for the opening statements this morning?

14 A. Yes, sir.

15 Q. All right. Would you turn to page 17 of the ocean dumping
16 report, please.

17 A. (Witness so complies.)

18 Okay.

19 Q. Could you read for us the last sentence of the first
20 paragraph. I believe at least part of the sentence was cited
21 by defendants' counsel in their opening.

22 A. "It therefore follows that even if substantial
23 quantities of DDT have been dumped and are still
24 present, their low bioavailability due to the
25 extreme depth may limit effects on marine

1 biota."

2 Q. When you wrote this report in 1985, had you examined the
3 bioavailability of DDT at the dumpsites?

4 A. We had not collected data yet, no.

5 Q. Have you subsequently examined that?

6 A. Yes, sir.

7 MR. GALVANI: Objection.

8 THE COURT: The objection is overruled.

9 MR. GALVANI: Well, Your Honor, if I may be heard on
10 that, he is not here as an expert witness. He is here as a
11 fact witness. None of this examination --

12 THE COURT: He asked him if it was measured and
13 when. That's not any expert testimony.

14 MR. GALVANI: But it was never produced to us, Your
15 Honor. This is all news to me.

16 MR. SPECTOR: Your Honor, just two weeks back, I
17 believe, we were here on their motion to exclude all the
18 evidence relating to ocean dumping on relevance grounds. That
19 motion was denied.

20 In fact, all this evidence was discussed at that
21 time.

22 MR. GALVANI: Your Honor, it is not in his
23 narrative -- his affidavit.

24 BY MR. SPECTOR:

25 Q. Mr. Chartrand, did you --

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1 THE COURT: Just a minute. Wait a minute.

2 (Pause.)

3 THE COURT: When were these measurements made?

4 BY MR. SPECTOR:

5 Q. Mr. Chartrand?

6 A. 1985. The summer and fall of '85.

7 Q. And were these measurements incorporated into any
8 additional reports that you coauthored?

9 A. Yes. They're in the 1987 report, which is an exhibit.

10 THE COURT: The objection is overruled.

11 THE WITNESS: The author was Dr. Bob Risebrough.

12 MR. GALVANI: I object to that. This gentleman can't
13 authenticate Dr. Risebrough's work. It's a totally separate
14 report.

15 Dr. Risebrough was stricken as an expert witness by
16 Your Honor. They attempted to add Dr. Risebrough. They sent
17 me a letter on Friday saying they were going to try to add

18 Dr. Risebrough's report as an LACSD document to be
19 authenticated by Mr. Chartrand.

20 Dr. Risebrough has nothing to do with this case.

21 Mr. Chartrand was not an LACSD employee and the report has
22 nothing to do with LACSD.

23 This is a bald-faced attempt to smuggle in the report
24 of Dr. Risebrough.

25 MR. SPECTOR: Your Honor, there is one bit of truth

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1 to that. I did in my letter accidentally use "LACSD" rather
2 than LARWQCD, which is the Water Quality Board.

3 In light of Mr. Galvani's response to our letter, in
4 which we simply wanted Mr. Chartrand to authenticate a document
5 from the water board, we went out yesterday and got a
6 certification of public record from the water board.

7 It's a water board document. It's a public record.
8 It's a certified copy. It is self-authenticated.

9 MR. GALVANI: Dr. Risebrough was stricken as a
10 witness, Your Honor.

11 THE COURT: The information from his report is now

12 what we're talking about. It's a public record.

13 The objection is overruled.

14 BY MR. SPECTOR:

15 Q. In light of your subsequent studies, is the statement
16 regarding bioavailability in your 1985 report correct?

17 MR. GALVANI: Objection. He didn't conduct
18 subsequent studies.

19 THE COURT: The objection is overruled.

20 THE WITNESS: Our report showed that DDT
21 concentrations in the two dumpsites, Dumpsites 1 and 2,
22 relative to two reference dumpsites at the same depth, were
23 elevated in DDT and that they showed a unique DDT signature
24 which would be consistent with a Montrose base source.

25 MR. GALVANI: Your Honor, I move to strike. This

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1 witness has not been qualified as an expert. There is no
2 competence to render that opinion.

3 THE COURT: The last statement with reference to
4 source is stricken. Otherwise, the motion is denied.

5 BY MR. SPECTOR:

6 Q. Mr. Chartrand, did you have any involvement in the 1987
7 report, which is Exhibit 3443, in drafting the report?

8 A. Yes, I did.

9 Q. What was the level of your involvement?

10 A. Dr. Risebrough was working for us. He was our
11 subcontractor. And I cowrote the materials and methods section
12 with him, and thus it was our study that he was conducting part
13 of on our behalf.

14 Q. Would you turn to page 54 of the report.

15 A. Okay.

16 Q. Sir, I would like to direct your attention to page 51.

17 A. 51.

18 Okay.

19 Q. Do you see the reference to crabs in the first paragraph
20 of page 51?

21 A. Yes, sir.

22 Q. Were you involved in the collection of those crabs?

23 A. Yes. I was the crew leader in collecting those. Those
24 were caught by otter trawl.

25 Q. Where did you collect samples for -- when you were at the

1 dumpsites for purposes of this report?

2 MR. GALVANI: Objection. I'm sorry, I didn't
3 understand the question.

4 MR. SPECTOR: That was a very unclear question.
5 Sorry.

6 BY MR. SPECTOR:

7 Q. When you visited the dumpsites, you collected samples; is
8 that correct?

9 A. Yes, sir.

10 Q. At that time, did you also collect samples from other
11 locations?

12 A. Yes. Quite a few other locations.

13 Q. What were the other locations?

14 A. With respect to the deep water samplings -- are we talking
15 exclusively about the deep water?

16 Q. Sure.

17 A. We collected from both Dumpsites 1 and 2. And then we
18 collected at a southern reference and a northern reference.

19 Q. I would like to direct your attention to the third
20 paragraph on page 51.

21 A. Yes, sir.

22 Q. Could you read that paragraph for us?

23 A. "The ratios," you mean?

24 MR. GALVANI: Your Honor, I object, unless this

25 witness is the person that performed this analysis.

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1 THE COURT: The objection is overruled.

2 THE WITNESS: Just read the paragraph?

3 BY MR. SPECTOR:

4 Q. Yes, please?

5 A. "The ratios among the DDT compounds and the

6 Munidopsis from Station B, including the ratio

7 of DDE to total DDT and o,p'-DDT to p,p'-DDT,

8 which is shown in Table A.6, indicate that the

9 sediments are sources of these compounds to the

10 food webs."

11 Q. And finally, I would like you to please turn to page 54 in

12 this exhibit.

13 Can you tell me what a "benthic fish" is?

14 A. It's a fish that lives near the bottom of the ocean.

15 Q. Can you read for us the first sentence of -- I believe
16 it's the third paragraph. It's under 3.4.
17 A. "The benthic fish living on the bottom of the San
18 Pedro Basin have accumulated high levels of both
19 DDT and PCB compounds, as shown in Tables 9,
20 A.10, A.11 and A.12."
21 MR. SPECTOR: That's it. Thank you, Mr. Chartrand.
22 THE COURT: Cross-examination?
23 MR. GALVANI: Yes, Your Honor.
24 /
25 /

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1 CROSS-EXAMINATION

2 BY MR. GALVANI:

3 Q. Mr. Chartrand, you're not an oceanographer, are you, sir?

4 A. No, sir.

5 Q. You're not an ichthyologist?

6 A. No, sir.

7 Q. You're not an avian expert?

8 A. No.

9 Q. You're not a toxicologist?

10 A. I am a toxicologist, yes. I'm a board certified

11 toxicologist.

12 Q. And what's a toxicologist?

13 A. I'm trained in course work in toxicology. I have a

14 Master's degree, and I'm certified by the American Board of

15 Toxicology.

16 Q. So you're not an expert in food web?

17 A. That's a matter of opinion.

18 Q. Well, have you ever been certified as an expert in food

19 chain?

20 A. I've done many studies which relate to the food web.

21 Q. Which relate to it. Do you consider yourself qualified to

22 be a food web expert?

23 A. In this instance, yes.

24 Q. What instance is that?

25 A. With respect to biocumulation or biomagnification of

1 contaminants associated with sediments. I have been doing it

2 for many, many years.

3 Q. When you went out to the deep ocean dumpsites, that water

4 is how deep?

5 A. About 2500 feet.

6 Q. Were there any white croaker down there?

7 A. No, sir.

8 Q. Are there any birds that dive down 2500 feet?

9 A. No, sir.

10 Q. Are there any sea lions that go down 2500 feet?

11 A. Not that deep, no.

12 Q. What are these crabs that you --

13 A. They are called galabeta crabs (ph) and they're just these

14 weird crabs that live in very deep water.

15 Q. And they don't come up for air?

16 A. No, they have gills.

17 Q. And they don't come up for daylight?

18 A. No. They live in the dark.

19 Q. You didn't find any of those on the -- you didn't see any

20 of those being eaten by bald eagles, did you?

21 A. No, sir.

22 Q. Now, when you set out to do your ocean dumping report, you

23 said you reviewed the files of the Regional Water Quality

24 Control Board on ocean dumping?

25 A. Yes, sir.

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1 Q. Did you review any papers at all that discussed
2 agricultural runoff as a source of DDT to the Southern
3 California Bight?

4 A. Not in this context.

5 Q. Had you before in any context?

6 A. Yes. I'm familiar with the general literature with
7 respect to agricultural runoff of DDT, yes.

8 Q. Had you read David Young's paper?

9 A. Which one would that be? He has written a lot of papers.

10 Q. The one on the synoptic survey of contamination of the
11 California Bight.

12 MR. SPECTOR: Your Honor, I would object. That
13 discussion of agricultural runoff was not in Mr. Chartrand's
14 direct testimony.

15 THE COURT: The objection is sustained.

16 MR. GALVANI: Well, Your Honor, may I be heard on
17 that? That's the very point -- the very problem with this
18 report that he has done is that he has failed to consider the

19 other inputs. And the result is --

20 THE COURT: He has only testified to measurements.

21 The objection is sustained.

22 BY MR. GALVANI:

23 Q. Well, you testified that there was low bioavailability;

24 isn't that right?

25 A. No, I did not testify to that. In the report, we say that

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1 it may have low bioavailability. And what I was referring to

2 is that we needed to answer that question.

3 Q. And Dr. Risebrough then went out to answer it?

4 A. He helped us answer it.

5 Q. And did you answer that by finding bioavailability to the

6 bald eagles?

7 A. No. We wouldn't go that far.

8 Q. Or to the peregrine falcons?

9 A. There were no birds in our study.

10 Q. Or to the white croaker?

11 A. There was croaker in our study.

12 Q. But you didn't find these as a food supply for the white
13 croaker?
14 A. That wasn't what we were looking for. We were looking for
15 PCB and DDT accumulations in white croaker and we found them.
16 Q. Would you answer my question, please.
17 A. With respect to a prey source, no.
18 Q. Now, you wrote a paper subsequently with Indira
19 Venkatesan, didn't you?
20 A. Yes, sir.
21 Q. Did you see the report that she wrote for NOAA with
22 respect to inputs into the Southern California Bight?
23 A. I couldn't swear whether I had or not.
24 MR. SPECTOR: Your Honor, a little concern that we
25 may be straying off the focus of the direct again if we are

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1 getting back to the agricultural runoff.
2 THE COURT: Well, let's find out. That's all I can
3 say.
4 BY MR. GALVANI:
5 Q. Specifically, are you familiar with her report entitled

6 "Historical Contamination in the Southern California Bight,"

7 prepared for NOAA in 1998?

8 A. No.

9 Q. Are you aware that she wrote currently "Agricultural

10 Runoff and Airborne Transport" --

11 THE COURT: No, counsel. He is not familiar with

12 it. Let's not do that, Mr. Galvani.

13 It's an old trial technique that is not countenanced

14 in this courtroom.

15 MR. GALVANI: Sorry, Your Honor.

16 BY MR. GALVANI:

17 Q. Now, when you did your deep ocean study, you found a

18 variety of dumpsites out in the Palos Verdes Shelf area, didn't

19 you?

20 A. We were only aware of the two: Dumpsite 1 and Dumpsite 2.

21 Q. Are you aware of the L.A. 2 Dumpsite?

22 A. Yes, sir. This study had nothing to do with the L.A. 2 or

23 the L.A. 5 Dumpsites.

24 Q. And where is the L.A. 2 Dumpsite?

25 A. It's in there somewhere. I'm not an expert on that.

1 I know it's deep, though. It is used by the Navy a
2 lot. That's all I know.

3 Q. It's used by the Navy?

4 Now, you referred to the "fingerprinting" in some
5 respect. Would you describe what you meant by that.

6 A. The general ratio for Palos Verdes-related sediments or
7 contaminants and sediments is maybe about 5 to 1 or 10 to 1 of
8 DDT to PCBs. And out in the dumpsites, we did not see that
9 characteristic ratio.

10 So we felt that was an indication -- that lack of PCP
11 presence in the deep water sediments was an indication to us
12 that it was more -- if you will, more purified DDT.

13 Q. Are you familiar with the work of Thomas Meichtry for the
14 State Department of Food and Agriculture?

15 A. No, sir.

16 MR. GALVANI: I have no further questions.

17 THE COURT: Any redirect?

18 MR. SPECTOR: Your Honor, I only have housekeeping.

19 REDIRECT EXAMINATION

20 BY MR. SPECTOR:

21 Q. Mr. Chartrand, did you submit a declaration setting forth

22 your direct testimony?

23 A. Yes, sir.

24 Q. Did you also submit an errata sheet?

25 A. I did.

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1 Q. Could you look at the very beginning of your binder, sir.

2 A. (Witness so complies.)

3 Q. Does that appear to be a true and correct copy of your

4 declaration?

5 A. Yes, sir, it does.

6 MR. SPECTOR: Your Honor, plaintiffs would like to

7 move the declaration of Allan Chartrand and the exhibits cited

8 there into evidence.

9 THE COURT: Any objection?

10 MR. GALVANI: No, Your Honor.

11 THE COURT: The direct testimony that I have does not

12 contain an errata sheet.

13 MR. SPECTOR: I believe, Your Honor, it was filed

14 earlier today. We will make sure you will get a correct copy

15 of it.

16 THE COURT: In evidence.

17 Are you through with Mr. Chartrand?

18 You may step down.

19 Call your next witness.

20 MR. SPECTOR: Your Honor, earlier today at the

21 beginning of these proceedings, Mr. Mc Nulty mentioned that we

22 had a number of expert witnesses whose testimony we would

23 proffer in light of them having been stricken by his court

24 earlier.

25 We have reached the appropriate time for the first

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1 one of those witnesses, a Mr. Gary Amendola, who is an

2 environmental consultant who calculated DDT -- the amount of

3 DDT released from the Montrose plant to the sewers, as well as

4 the amount of DDT that was passed through the sewer treatment

5 plant and to the outfall.

6 From the plant to the sewers, he calculated a figure

7 of 1500 to 2100 tons of DDT from the period 1947 to 1982. From

8 the sewer treatment plant to the outfall, he established a

9 figure of 872, 1,220 tons of DDT, which of course is consistent
10 with this court's earlier finding of fact, that at least some
11 of the DDT discharged by Montrose into the sewers went on to
12 the Palos Verdes Shelf.

13 At this time, I would like to call Mr. Gary Amendola
14 as a witness.

15 MR. GALVANI: Your Honor, I object to this process.
16 These are just offers of proof of stricken witnesses.

17 THE COURT: The objection is sustained.

18 MR. SPECTOR: Should we present you with the written
19 declaration, Your Honor?

20 THE COURT: No. If I have a -- well, if you want to
21 do that as an offer of proof for whatever results from this
22 lawsuit, you may do so. I can't stop you from doing that.

23 MR. GALVANI: Your Honor, I assume those offers would
24 just be into the record.

25 THE COURT: That's all.

1 MR. SPECTOR: At this time, we would like to place
2 the declaration -- proffer of testimony of Mr. Gary Amendola

3 into the record with the exhibits cited there.

4 THE COURT: Yes. It's filed separately. And it will
5 be an exhibit next in order for identification purposes only,
6 for an offer of proof only.

7 Call your next witness.

8 MR. O'ROURKE: Your Honor, thematically, we are
9 drawing to the close of the part of the case that's about the
10 plant and releases to the ocean. And before moving on to a new
11 part of the case about what's in -- the environmental effects
12 in the ocean, we have additional exhibits to move in. There's
13 about 50 of them.

14 I can argue them one at a time. I can move them in.
15 I have prepared a binder with each exhibit in it with a chart
16 on the top with the exhibit numbers, the defendants' objections
17 and our response.

18 I just don't know how you want to handle that.

19 THE COURT: Do the binder all at once. No problem.

20 MR. GALVANI: Your Honor, we haven't seen this binder
21 before, so I don't know what's coming.

22 THE COURT: Okay. We'll just hold the ruling until
23 tomorrow morning.

24 MR. O'ROURKE: Thank you, Your Honor.

25 And the plaintiffs call Dr. Homa Lee to the stand.

1 MR. GALVANI: Your Honor, could -- before you do
2 that, could I just say with respect to these documents that are
3 coming in in a block like that, I think there ought to be some
4 explanation by the plaintiffs as to what is the relevance of
5 these different documents. Why are they offering them? For
6 what purpose?

7 THE COURT: Well, they said they have your objections
8 to them, so evidently you have seen them. If you have
9 objections, we'll look at those.

10 MR. O'ROURKE: I can also explain that they relate to
11 the plant operations and the discharges to the sewer system and
12 the local environment. They are generally ancient documents or
13 admissions by the defendants. That's why we don't need a
14 witness to get them in.

15 THE COURT: All right.

16 MR. KUSHNER: Your Honor, I would like to reintroduce
17 myself. My name is Adam Kushner. I'm senior counsel for the
18 United States Department of Justice.

19 Our next witness will be Homa Lee.
20 THE CLERK: Would you step forward.
21 Would you raise your right hand.
22 HOMA LEE, PLAINTIFFS' WITNESS, SWORN
23 THE WITNESS: Yes.
24 THE CLERK: Please be seated.
25 For the record, sir, would you please state your full

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1 name and spell your last name.
2 THE WITNESS: Homa Jeff Lee, L-e-e.
3 DIRECT EXAMINATION
4 BY MR. KUSHNER:
5 Q. Dr. Lee, by whom are you currently employed?
6 A. I'm employed by the United States Geological Survey.
7 Q. How long have you been employed there?
8 A. 21 years.
9 Q. And your position?
10 A. I'm a research civil engineer.
11 Q. Can you describe what you do at the USGS?
12 A. I manage and conduct research dealing with sea floor slope

13 stability and marine sedimentology.

14 Q. What is "sedimentology"?

15 A. "Sedimentology" is the study of how sedimentary bodies are
16 formed and how they change with time.

17 Q. And as part of your research with USGS, have you
18 undertaken investigations of sea floor sediments?

19 A. Yes, I have.

20 Q. On how many occasions have you performed or supervised the
21 performance of sediment sea floor sampling?

22 A. At least 20.

23 Q. Dr. Lee, at one point in time, were you invited to
24 participate in an investigation of the conditions of the
25 sediment on the Palos Verdes Shelf and margin?

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1 A. Yes, I was.

2 Q. In fact, did you participate in such an investigation?

3 A. Yes, I did.

4 Q. Dr. Lee, what was the purpose of that investigation?

5 A. The purpose of the investigation was to investigate the

6 distribution and character of effluent-affected sediment on the
7 Palos Verdes margin and investigate its fate.

8 Q. And why were you asked to do that, sir?

9 A. There was historical information available that indicated
10 the sediment was contaminated with DDT and PCBs.

11 Q. And what were you asked to determine in particular, if you
12 recall?

13 A. I was asked to determine whether or not the sediment
14 contained these constituents and where the constituents were
15 located and what was their general distribution on the margin.

16 Q. Dr. Lee, can you please describe for the court in a
17 general fashion what was involved in your investigation of the
18 Palos Verdes margin.

19 A. It was a multi-step process that included an initial stage
20 during which we determined the geometry of the deposits, using
21 the remote sensing acoustics. This was followed by sea floor
22 sampling.

23 The samples were analyzed for sedimentological,
24 physical and geochemical properties. The results were obtained
25 and synthesized to form conclusions.

1 Q. And what role specifically did you play in that
2 investigation?

3 A. I coordinated the work of my colleagues. I led the
4 venture to obtain samples of the sea bed. I assessed
5 historical information and I synthesized results to determine
6 the distribution character of the sediment.

7 Q. Dr. Lee, did you prepare direct written testimony
8 regarding the work that you did and opinions that you reached
9 in connection with your investigation of the Palos Verdes
10 margin?

11 A. Yes, I did.

12 Q. Let me direct your attention, if I could, sir, to a copy
13 of your testimony.

14 We will provide copies to Your Honor as well.

15 Would you take a moment and review this document,
16 sir.

17 Is this the testimony that you prepared?

18 A. Yes, it is.

19 Q. Does it bear your signature?

20 A. Yes, it does.

21 Q. What is the subject matter of your testimony?

22 A. The subject matter of my testimony is the distribution

23 character of effluent-affected marine cells on the Palos Verdes
24 margin.

25 Q. Dr. Lee, are your qualifications necessary to perform the

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1 investigation set forth in your direct testimony?

2 A. Yes, they are.

3 Q. Dr. Lee, would you like to change any opinions or
4 statements that you currently have in that testimony at this
5 time?

6 A. No, I would not.

7 MR. KUSHNER: Your Honor, at this time, the United
8 States and State of California would request that the court
9 recognize Dr. Lee as an expert in the field of the distribution
10 and character of marine sediments.

11 THE COURT: Go ahead.

12 BY MR. KUSHNER:

13 Q. Dr. Lee, based on the work you performed in connection
14 with your investigation of the Palos Verdes margin sediments
15 and your experience in assessing the distribution and character

16 of such sediments, have you developed opinions regarding the
17 distribution and character of the effluent-affected sediment on
18 the Palos Verdes margin?

19 A. Yes, I have.

20 Q. Could you please describe for the court what those
21 opinions are, sir.

22 A. Yes. We formed a number of opinions. I have formed a
23 number of opinions.

24 I have determined that the effluent-affected
25 marine -- there is a lens of sediment that is affected by

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1 effluent and it covers much of the Palos Verdes margin. The
2 volume of this deposit is in excess of 9,000,000 cubic meters
3 and it covers an area in excess of 40 square kilometers.

4 Virtually the entire deposit is contaminated with DDT
5 and its by-products. There is a surface footprint that
6 contains high levels of DDE and DDT, all within the upper few
7 centimeters of the sea bed.

8 Concentration levels in 1995 exceeded 15 parts per
9 million, according from data LACSD. And according to our own

10 study, there are -- there is an area in which contamination
11 levels exceed 5 parts per million that is about 12 square
12 kilometers.

13 There are peak concentrations in excess of 200 parts
14 per million, according to 1993 LACSD data and also according to
15 our 1992 survey.

16 There is a total -- we have determined the inventory
17 of the deposit, which is the total mass of DDE within the
18 effluent-affected deposit, and according to our study, the
19 inventory of total DDT is about 100 cubic -- I'm sorry -- 100
20 metric tons.

21 Q. Dr. Lee, does the deposit have a particular orientation on
22 the Palos Verdes margin?

23 A. The deposit tends to extend towards the northwest from the
24 White's Point outfall in accordance with the direction of the
25 dominant currents.

1 Q. Dr. Lee, let me direct your attention if I could, sir, to
2 a demonstrative exhibit that has been numbered 28. Mr. Lipps

3 will place that on the stand for you.

4 Would you please describe the general layout of the
5 Palos Verdes margin for the court, please.

6 A. Yes. The visual that you see here combines onshore
7 topography with offshore bay symmetry (ph) acquired using
8 multi-beam techniques. You can see the Palos Verdes hills and
9 the Palos Verdes peninsula.

10 Immediately to the south of the Palos Verdes hills is
11 a several mile wide shelf that we call the Palos Verdes Shelf.
12 It's about 10 miles or so long. And seaward of the Palos
13 Verdes Shelf is the what we call the Palos Verdes Slope, which
14 extends down to the far San Pedro basin.

15 The image which you see before you has a vertical
16 exaggeration of about 20, which makes the features appear more
17 pronounced than they would actually be.

18 Q. Thank you, Doctor.

19 A. Excuse me. I would like to show the -- the White's Point
20 outfall extends out to about a 200 foot water depth on the
21 Palos Verdes Shelf.

22 Q. Is this the area at which you collected samples as part of
23 your 1992 investigation of Palos Verdes margin?

24 A. Yes.

25 Q. If I could, Dr. Lee, I would like to direct your attention

1 to Plaintiffs' Exhibit 3102, Appendix H.

2 Your Honor, Plaintiffs' Exhibit 3102 is quite
3 extensive. It's three volumes. We are going to provide you
4 both with the notebooks, but we prepared excerpts to facilitate
5 the review and to expedite the -- the notebooks happen to have
6 color copies of some of these things, but --

7 I believe the page is actually in Volume II, sir.

8 Dr. Lee, what is this document?

9 A. This document is Appendix H to the report I prepared on
10 the distribution character of the sediment. It includes the
11 result of the geotechnical analyses that were conducted by the
12 firm Arthur D. Little and validated by the firm EcoChem.

13 Q. You have said "geotechnical analyses"?

14 A. I did geochemical analyses. Excuse me.

15 Q. This is the laboratory analytical results of sediment
16 samples that you obtained?

17 A. Yes.

18 Q. Dr. Lee, is it your understanding that this appendix
19 contains all the sediment chemistries performed on the cores

20 you collected during the Palos Verdes investigation and that
21 you summarized in your report in which you reached the
22 conclusions that you just stated for the court?

23 A. Yes.

24 MR. KUSHNER: Your Honor, at this point in time we
25 would request that Plaintiffs' Exhibit 3012, Appendix H, be

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1 admitted into evidence.

2 THE COURT: Any objection?

3 MR. LYTZ: No objection.

4 THE COURT: 3012, Appendix H, should be in evidence.

5 (Joint Exhibit 3102, Appendix H received.)

6 BY MR. KUSHNER:

7 Q. Dr. Lee, I would also like to direct you if I could to

8 Plaintiffs' Exhibit 3012, the main report, and specifically

9 tables 2, 5 and 7.

10 The main report is the very first tab, Your Honor, of
11 the very first volume of the document. And we have prepared to
12 facilitate your review excerpts of that.

13 THE COURT: All right.

14 We will take a short recess. Five minutes.

15 (Recess taken.)

16 BY MR. KUSHNER:

17 Q. Dr. Lee, I have directed your attention to tables 2, 5 and

18 7 of Plaintiffs' Exhibit 3012.

19 Do you have those in front of you, sir?

20 A. Yes, I do.

21 Q. Did you prepare those tables?

22 A. Yes, I did.

23 Q. Could you describe for the court generally what those

24 tables include.

25 A. These are tables taken from my expert report that

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1 summarize the geochemical data that we obtained from our core

2 samples from the Palos Verdes margin.

3 Table 2 includes the core station locations. Table 5

4 includes the data that we obtained on DDT and its by-product,

5 its dominant by-product p,p'-DDT and other quantities.

6 And table 7 includes the information we used to

7 calculate the mass per unit area of p,p'-DDE at our coring
8 stations as well as mass per unit area and other quantities.

9 Q. Is the information contained in these tables, Dr. Lee,
10 derived from the data that was collected by you with your
11 colleagues as part of the Palos Verdes margin investigation?

12 A. Yes.

13 MR. KUSHNER: Your Honor, at this time the United
14 States and the State of California would request that tables 2,
15 5 and 7 be admitted into evidence.

16 THE COURT: Any objection?

17 MR. LYTZ: No objection, Your Honor.

18 THE COURT: 2, 5 and 7 in evidence.

19 (Joint Exhibit 3012, Tables 2, 5 and 7 received.)

20 BY MR. KUSHNER:

21 Q. Dr. Lee, can you describe for court what analyses you
22 performed using the sediment chemistry data that you obtained
23 from Arthur D. Little that is described in both Appendix -- or
24 that is set forth in Appendix H and tables 2, 5 and 7.

25 A. Yes, I can. After we received the information from

1 EcoChem, we tabulated the data and the data were entered into a
2 geographic information system or GIS, which is a computer
3 application for looking at spacially variable data.

4 We used the geographic information system to
5 calculate various quantities, including the distribution of the
6 contaminants within the sediment body.

7 We also investigated such quantities as the surface
8 concentration of DDE -- DDT and its by-products, the maximum
9 concentration of DDT and its by-products, the depth, the
10 thickness of the effluent-affected sediment layer, the mass per
11 unit area of the various quantities that were tabulated in the
12 last table that we looked at. And we looked at total organic
13 carbon and PCPs.

14 Q. What is "mass per unit area"?

15 A. "Mass per unit area" is a representation of how much of a
16 quantity lies below a unit area of the sea bed. For example,
17 below a square centimeter, how much mass -- how much weight of
18 that material would be found below that.

19 Q. Thank you. Let me direct your attention, if I could,

20 Dr. Lee, to Demonstrative Exhibit Number 29.

21 Dr. Lee, could you please describe this exhibit for
22 the court.

23 A. Yes. These are three quantities presented as maps off the
24 Palos Verdes coast. The coastline has been rotated slightly so
25 that the three -- this is the coast line here (indicating).

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1 It's been rotated slightly so that the three maps could be
2 presented on one figure.

3 The White's Point outfall is shown by these lines.

4 And what we see is the surface concentration of p,p'-DDE, the
5 dominant isomer of DDT, the peak concentration at any depth of
6 the sediment column and the mass per unit area of DDE, which I
7 just defined.

8 What we find in each of these figures is that there
9 is a lens of sediment that is most contaminated with DDE that
10 emanates from the White's Point outfall and extends on towards
11 the northwest. The surface concentration exceeds 10 parts per
12 million. The peak concentration at any depth exceeds 150 parts
13 per million and as you can see, it emanates from the end of the
14 outfall towards the northwest in accordance with my
15 understanding of the dominant current direction.

16 And the mass of DDE per unit area -- sort of where is

17 the most weight of the material. It also forms this length
18 that extends towards the northwest and decreases in all
19 directions from this lens.

20 Q. Dr. Lee, let me direct -- strike that.

21 At one point -- as part of your examination, Dr. Lee,
22 did you also evaluate sediment chemistry data obtained by LACSD
23 or Los Angeles County Sanitation District of sediment cores
24 that it had obtained from the Palos Verdes margin?

25 A. Yes, I did.

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1 Q. Let me direct your attention, if I could, Dr. Lee, to
2 Plaintiffs' Exhibit 3012, Appendix F.

3 Is this the data you obtained, sir, for the years
4 1981 through 1989?

5 A. Yes, it is.

6 Q. And what is included in that appendix?

7 A. What is included in this appendix are the results of cores
8 that were taken by LACSD and analyzed for geochemistry and
9 physical properties. These results are presented as graphs of

10 these quantities versus depth within the cores.

11 Q. Is it your understanding that the appendix contains all
12 the DDT and DDE data that you received from LACSD for the years
13 1981 through 1989?

14 A. Yes.

15 Q. Is this the data that you used to develop your opinions
16 about the -- as expressed in your report and as expressed here
17 regarding the chemistry of cores obtained by LACSD?

18 A. Yes.

19 MR. KUSHNER: Your Honor, at this time we would
20 request that Plaintiffs' Exhibit 3012, Appendix F be moved into
21 evidence.

22 THE COURT: Any objection?

23 MR. LYTZ: No objection, Your Honor.

24 THE COURT: 3012 in evidence.

25 (Joint Exhibit 3012, Appendix F received.)

1 BY MR. KUSHNER:

2 Q. Dr. Lee, let me also direct your attention if I could to
3 Plaintiffs' Exhibit 3012, the main report once again, this time

4 tables 3, 4 and 11.

5 Your Honor, to facilitate your review, we have copies
6 or excerpts of that as well.

7 Dr. Lee, can you describe for the court the three
8 tables that we just provided you?

9 A. Yes. These three tables summarize the information that we
10 received from LACSD. The first table lists the coordinates for
11 their stations. The second table lists calculations of mass
12 per unit area for all of the cores that were analyzed during
13 this time period.

14 And table 11 lists the thickness of the
15 effluent-affected sediment layer, based on the data that were
16 obtained from LACSD.

17 Q. What do you mean by LACSD stations?

18 A. The Los Angeles County Sanitation Districts have
19 established a grid of coring stations along the Palos Verdes
20 margin. The stations have a number and a letter, for example
21 6C, and the --

22 Some of the stations are visited every two years
23 during odd-numbered years and other stations are not sampled so
24 frequently.

25 Q. Were these tables prepared by you, Dr. Lee?

1 A. Yes, they were.

2 Q. They were from your expert report?

3 A. Yes.

4 Q. Were the tables compiled by you as well from data obtained
5 by LACSD?

6 A. Yes, they were.

7 MR. KUSHNER: Your Honor, the United States and the
8 State of California would request that Plaintiffs' 3012,
9 table -- main report, tables 3, 4 and 11 be admitted into
10 evidence.

11 THE COURT: Any objection?

12 MR. LYTZ: No objection, Your Honor.

13 THE COURT: 3012, 3, 4 and 11 in evidence.

14 (Joint Exhibit 3012, tables 3, 4 and 11 received.)

15 BY MR. KUSHNER:

16 Q. Dr. Lee, let me direct your attention to Plaintiffs' 3125,
17 3126, 3127 and 3128.

18 We will just be one more moment, Your Honor.

19 (Pause.)

20 BY MR. KUSHNER:

21 Q. Dr. Lee, have you seen these documents before?

22 A. Yes, I have.

23 Q. What are these documents?

24 A. These documents are new data that we have received from

25 Los Angeles County Sanitation Districts representing results

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1 obtained for the years 1991, 1993, 1995 and a partial summary

2 of data that they have obtained -- the data that -- a partial

3 set of data from 1997.

4 Q. These are data you received from LACSD?

5 A. Yes.

6 Q. Is it your understanding that these tables contain all the

7 sediment chemistry data you received from LACSD for the years

8 1991 through 1997?

9 A. Yes.

10 MR. KUSHNER: Your Honor, at this time we would

11 request that Plaintiffs' Exhibits 3125, 3126, 3127 and 3128 be

12 admitted into evidence.

13 THE COURT: Any objection?

14 MR. LYTZ: No objection, Your Honor.

15 THE COURT: 3126, 3127 and 3128 in evidence.

16 (Joint Exhibit 3126 through 3128 received.)

17 BY MR. KUSHNER:

18 Q. Dr. Lee, could I please direct your attention to the

19 Demonstrative Exhibit Number 30.

20 Your Honor, when expressing your intent to receive

21 into evidence the last four exhibits, you omitted a reference

22 to 3125.

23 THE COURT: 3125 -- yes, I did. It's in evidence.

24 (Joint Exhibit 3125 received.)

25 /

1 BY MR. KUSHNER:

2 Q. Dr. Lee, could you please describe what information is set

3 forth or conveyed in Demonstrative Exhibit Number 30?

4 A. Yes. What you see here are three maps presented in the

5 same format as I showed for the USGS data. These data are

6 based on the 1989 survey by LACSD showing, again, the surface

7 concentration, peak concentration at any depth of the sediment
8 and the mass of DDE per unit area, per square centimeter.

9 And what I would like to show from this is that these
10 results show the same pattern as our data presented, that there
11 is a lens of sediment. The lens trends towards the northwest.
12 And the magnitude of values are roughly the same.

13 Q. How does the orientation of the LACSD data as it appears
14 on the Palos Verdes margin compare to the orientation of the
15 1992 USGS data set as you expressed it and it appears on the
16 margin -- on the Palos Verdes margin?

17 A. The orientation is similar.

18 Q. Dr. Lee, let me direct your attention now to Demonstrative
19 Exhibit Number 36.

20 Will you please describe for the court what this
21 figure shows.

22 A. This figure was obtained in 1993, the year after our
23 survey in 1992, and it shows the p,p'-DDE inventory, which is
24 another term for the mass per unit area. And it again shows
25 that the contaminated effluent-affected body trends towards the

1 north -- emanates from the White's Point outfall and extends
2 towards the northwest.

3 Q. Dr. Lee, have you had an opportunity to compare the USGS
4 and the LACSD data sets?

5 A. Yes, I have.

6 Q. Let me direct your attention, if I could, to Demonstrative
7 Exhibit Number 34.

8 Would you use this figure to describe for the court
9 your findings with respect to your comparison?

10 A. Yes, I can.

11 We were able to use maps like the last one that was
12 shown before this figure to calculate an estimate of the total
13 mass within the area that we mapped on the Palos Verdes
14 margin. This is what we plotted: The estimated total mass of
15 p,p'-DDE within a designated area.

16 We have done this for five different data sets. We
17 have done it for the LACSD 1989, 1991, 1993 and 1995 data. We
18 have found that the -- this is for p,p'-DDE.

19 We have found that for the Los Angeles County
20 Sanitation Districts' data that the results are about 120
21 metric tons. This last data point represents a somewhat
22 smaller area and that may partially explain why it is lower.

23 The USGS data show a total mass of around 65 metric

24 tons. We believe that this difference between the LACSD and
25 the USGS data is mainly explained because of differences in our

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1 sampling grids and some differences in our procedures.

2 Q. Dr. Lee, now you made a point of calling out for the court
3 the fact that the table and figure that you were just
4 discussing refers specifically to p,p'-DDE.

5 A. Yes.

6 Q. Why did you do that?

7 A. Because it doesn't constitute all of total DDT. The
8 p,p'-DDE is typically about two-thirds of total DDE, so to
9 calculate -- I'm sorry -- total DDT, so to calculate DDT, one
10 would need to multiply these numbers by about one and a half.

11 Q. Dr. Lee, do you have an opinion as to the mass of p,p'-DDE
12 present in the Palos Verdes margin sediment at a depth of 20
13 centimeters or less, applying the 1993 LACSD data?

14 A. Yes, I do.

15 Q. What's that opinion, sir?

16 A. My opinion is -- my estimate is that there are about 40

17 metric tons of p,p'-DDE in sediment depth shallower than 20
18 centimeters, based on the 1993 LACSD data.

19 Q. Dr. Lee, do you know whether or not there are any other
20 large volume ocean outfalls in the Southern California Bight?

21 A. Yes.

22 Q. Do you know where those outfalls are?

23 A. Yes. There are large outfalls located -- there is the
24 Hyperion outfall in Santa Monica Bay operated by the City of
25 Los Angeles, there is the Orange County outfall and there is

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1 the San Diego outfall. All of these are large outfalls.

2 Q. Do you have an opinion as to whether or not the same
3 concentration and mass of p,p'-DDE, or total DDT for that
4 matter, observed in the vicinity the White's Point outfall is
5 present in the vicinity of those other ocean outfalls?

6 MR. LYTZ: Objection, Your Honor. This is not in
7 Dr. Lee's report.

8 MR. KUSHNER: Your Honor, this goes to what the
9 distribution and character of the effluent-affected sediment is
10 in the Palos Verdes margin area.

11 MR. LYTZ: Your Honor, it's still not in his report.

12 THE COURT: Objection sustained.

13 BY MR. KUSHNER:

14 Q. Dr. Lee, do you have an opinion as to the source of the
15 DDE and DDT on the Palos Verdes margin?

16 A. Yes, I do.

17 MR. LYTZ: Objection, Your Honor. It's not a subject
18 matter covered in Dr. Lee's report.

19 MR. KUSHNER: Well, that certainly is.

20 In his expert report or his testimony, Mr. Lytz?

21 THE COURT: Beg your pardon?

22 MR. KUSHNER: His testimony refers, Your Honor --

23 MR. LYTZ: What do you mean by "source,"

24 Mr. Kushner.

25 MR. KUSHNER: Excuse me?

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1 MR. LYTZ: By "source."

2 MR. KUSHNER: Whether or not -- let me see if I can
3 restate the question.

4 BY MR. KUSHNER:

5 Q. Dr. Lee, do you have an opinion as to the source of
6 p,p'-DDE on the Palos Verdes margin?

7 A. Yes.

8 MR. LYTZ: Objection, Your Honor. Not a subject
9 covered in his report.

10 BY MR. KUSHNER:

11 Q. Do you have an opinion as to whether or not the source of
12 the Palos Verdes margin of the DDE is the White's Point
13 outfall?

14 A. Yes.

15 Q. What is that opinion?

16 MR. LYTZ: Objection, Your Honor.

17 THE COURT: Objection sustained.

18 MR. KUSHNER: Your Honor, that -- Dr. Lee's opinion
19 does express the position that -- it does address it
20 specifically in his testimony.

21 At this time, Your Honor, I have no further
22 questions.

23 THE COURT: All right. I think we will take up the
24 matter at 9:00 o'clock tomorrow morning.

25 THE CLERK: All rise.

1 (Proceedings adjourned.)

2

3 I CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT
4 TRANSCRIPT FROM THE STENOGRAPHIC RECORD OF
5 PROCEEDINGS IN THE FOREGOING MATTER.

6

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9 _____
DEBORAH D. PARKER, CSR OCTOBER 18, 2000

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1 UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
3 WESTERN DIVISION
4 ---
5 HONORABLE MANUEL L. REAL, JUDGE PRESIDING
6 ---
7 UNITED STATES OF AMERICA, et al.,)
8)
9 Plaintiffs,) NO. CV 90-3122-R
10)
11 vs.)
12)
13 MONTROSE CHEMICAL CORPORATION)
14 OF CALIFORNIA, et al.,)
15)
16 Defendants.)
17 _____)
18)
19 AND RELATED COUNTERCLAIMS,)
20 CROSS-CLAIMS AND THIRD-PARTY)
21 ACTIONS)
22 _____)
23)
24)
25)

16

17

REPORTER'S TRANSCRIPT OF PROCEEDINGS

18

Los Angeles, California

19

Wednesday, October 18, 2000

20

21

22

Volume 2

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1 LOS ANGELES, CALIFORNIA; WEDNESDAY, OCTOBER 18, 2000; 9:20 AM
2 THE CLERK: Item Number 1, CV 90-3122, United
3 States of America, et al. vs. Montrose Chemical, et al.
4 THE COURT: All right. The clerk has gotten the
5 appearances so we need no further appearances.
6 MR. ALLEN: Your Honor, Jose Allen. There are a
7 couple of housekeeping matters that we would like to address
8 before we begin the cross-examination of Mr. Lee, with your
9 Honor's permission.
10 The first is, your Honor, that, in light of the
11 views that you expressed yesterday in connection with the
12 defendants' counterclaims against the State of California --
13 that is, the various breach of trust counterclaims filed by
14 the various defendants -- the defendants do not oppose your

15 Honor dismissing that claim at this time.

16 And, your Honor, we believe with the dismissal of
17 that claim that essentially disposes of all of the
18 counterclaims pending against the State in this action by
19 the defendants.

20 MR. PHILLIPS: Your Honor, I would agree -- Pardon
21 me. Layn Phillips. I would agree, and I'd just like to
22 make clear that the dismissal should be a dismissal with
23 prejudice by all four defendants.

24 And, further, with respect to the pending motions
25 that we had, I also think it does moot the motion in limine

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1 with respect to regulatory conduct.

2 THE COURT: Right.

3 MR. PHILLIPS: I think the Court could deny that
4 as moot now. The other motion in limine by the State of
5 California with respect to evidence unrelated to DDT is
6 still alive since that has both plaintiff and defense issues
7 in it. And I'm assuming that the subpoenas that were issued
8 to my client in connection with the counterclaims and
9 documents associated with the counterclaims are now
10 withdrawn. We had filed some motions to quash those.

11 MR. ALLEN: That is correct, your honor. The
12 counterclaim -- the subpoenas that were issued in connection
13 with the counterclaims would be withdrawn. There are other
14 subpoenas outstanding that don't go to the counterclaims
15 that would need to be addressed in due course.

16 THE COURT: All right.

17 MR. PHILLIPS: So those motions to quash, to the
18 extent that some of the witnesses may be half counterclaim,
19 half case in chief, those motions to quash are still alive.

20 With that, your Honor, may Miss Byrd and I be
21 excused?

22 THE COURT: Yes.

23 MR. PHILLIPS: And I assume that the Court's
24 dismissal would be with prejudice as to all four defendants.

25 THE COURT: Yes.

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1 MR. LYTZ: Good morning, your Honor. Karl Lytz.
2 Several other housekeeping issues.

3 The defendants have filed a number of motions with
4 respect to plaintiffs to exclude the testimony of a number

5 of witnesses, and we wanted your guidance on how to proceed.
6 Specifically there will be several witnesses on today's
7 list -- a Dr. Wiberg, the testimony of Dr. Wiberg, and the
8 testimony of Dr. Calamabokidis.

9 The plaintiffs have filed motions to exclude on
10 the basis of their testimony violating your Honor's rulings
11 about sanctions. These are two witnesses who were jointly
12 designated and dismissed by your June 26 order, and we
13 believe their appearance is inconsistent with your August
14 1st order, as well.

15 Would you like to hear those on motion, your
16 Honor, or would you like for us to raise those on voir dire?
17 How would you like for us to proceed?

18 MR. KUSHNER: Your Honor, Adam Kushner for the
19 United States. May I be heard?

20 THE COURT: Certainly.

21 MR. KUSHNER: I believe we received the
22 Calambokidis and Wiberg motions just yesterday. In
23 addition, we've received other motions this morning.

24 THE COURT: I haven't seen them at all. So we'll
25 have to get to that.

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1 All right. I intend to proceed now, because I
2 think now as it is moving or as it moved yesterday, to
3 complete the testimony on the issue of the amount of
4 pollution that is in the Southern California Bight or the
5 Palos Verdes Shelf, and its source from the plaintiff, and
6 then to put on the case of the defendant with reference to
7 that issue, solely to that issue. I think we can resolve
8 that issue rather quickly.

9 MR. KUSHNER: Your Honor, one just small
10 housekeeping measure also from yesterday. With the
11 agreement of counsel from Montrose, I stepped down yesterday
12 and closed my examination of Dr. Lee without actually
13 introducing his testimony, which I'd like to do at this
14 time, together with the exhibits in that testimony which, by
15 stipulation of counsel and order of the Court, have been
16 stipulated to as to their admissibility.

17 THE COURT: All right. Any objection? That is in
18 evidence.

19 (Joint Exhibit 3012 received.)

20 Cross-examination?

21 HOMA J. LEE, PLAINTIFF'S WITNESS, (RESUMED)

22 CROSS-EXAMINATION

23 BY MR. LYTZ:

24 Q. Dr. Lee, could I ask you to place your affidavit of
25 direct testimony in front of you. Do you have it there,

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1 sir?

2 A. Yes, sir, I have it.

3 Q. Could I ask you to turn to page 4, lines 14 through 15.

4 You wrote there that "The LACSD data show that the total
5 mass of p,p'-DDE on the Palos Verdes Margin did not change
6 substantially between 1989 and 1995." Is that correct, sir?

7 A. That is correct.

8 Q. And you still hold that opinion today?

9 A. Yes.

10 Q. Could I ask you to turn to page 14, again of your
11 direct affidavit. Focusing first at lines 6 to 7.

12 Now, there you wrote, "These values show a nearly
13 constant total p,p'-DDE inventory with time over the period
14 of 1989 to 1985." Do you still hold that opinion today,
15 sir?

16 A. You're talking about the values -- Let's see.

17 Q. You're talking, I believe, about the mass of --

18 A. The total mass?

19 Q. Yes, sir.

20 A. Yes, I still hold that opinion.

21 Q. And then further on that page, down on lines 19 to 20,
22 page 14, you wrote "That is, the inventory is not changing,
23 as well as can be determined." Correct?

24 A. Yes, although this does not refer to the total amounts,
25 I don't believe.

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1 Q. Okay. But it refers to other characters. In sum, your
2 view is that the amount of DDE on the Palos Verdes sediments
3 is not changing; correct?

4 A. My view is that given our data set we cannot make a
5 determination one way or the other as to whether it's
6 changing.

7 Q. Well, that's not what you wrote. You wrote that in
8 your opinion, and just confirmed, that the total mass is not
9 changing or hasn't changed during the period of 1989 to
10 1995; is that not your opinion?

11 A. My opinion is that the inventory is not changing as
12 well as can be determined with the data.

13 Q. But your opinion is, is that it's not changing.
14 THE COURT: No, he's saying as well as --
15 MR. KUSHNER: Object at this time --
16 THE COURT: -- can be determined at the present
17 time.
18 MR. LYTZ: Okay.
19 BY MR. LYTZ:
20 Q. So, in other words, to the best of your understanding,
21 Dr. Lee, DDE is not leaving the Palos Verdes Shelf.
22 MR. KUSHNER: Objection, your Honor.
23 THE COURT: The objection is overruled.
24 THE WITNESS: That really isn't what I say. I say
25 that it is not changing as well as we can tell.

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1 BY MR. LYTZ:
2 Q. That's not my question, sir.
3 My question is, based on the evidence that's
4 before you, the DDE in the sediments on the Palos Verdes
5 Shelf is not leaving; it's staying in place, isn't it?
6 A. You're asking is that my opinion?
7 Q. Yes, sir, I am.
8 A. No, that is not my opinion.
9 Q. Well, that's inconsistent with what you've stated.
10 You've said that the LACSD --
11 THE COURT: No, it's not inconsistent. The mass
12 is the same. It may be in different places.
13 BY MR. LYTZ:
14 Q. Okay. So it's staying on the Shelf, is it, sir?
15 A. It may well be changing, but we cannot tell with the
16 available data.
17 Q. When you conducted your survey -- 7, please -- when you
18 conducted your investigation in 1992, Dr. Lee, you used two
19 forms of coring devices, didn't you?
20 A. That is correct.
21 Q. This is --
22 A. Excuse me. Actually we used three.
23 Q. Three, thank you. You used a box coring device and a
24 gravity coring device.
25 MR. KUSHNER: Your Honor, I have to object. We

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1 have not seen this demonstrative.
2 MR. LYTZ: This was -- There was an important

3 element of testimony given yesterday, your Honor, that I
4 need to clarify, and I'm showing this by way of impeachment.

5 MR. KUSHNER: Your Honor, by examining --

6 THE COURT: Overruled.

7 BY MR. LYTZ:

8 Q. It's important, is it not, Dr. Lee, to use the right --

9 THE REPORTER: Excuse me, Counsel, I'm sorry.

10 (Brief interruption.)

11 MR. KUSHNER: Your Honor, I would just point out
12 that there has been no foundation laid to impeach this
13 witness, so the introduction of this exhibit at this point
14 in time seems inappropriate under the rules for impeachment.

15 THE COURT: Overruled. Let's hear it.

16 BY MR. LYTZ:

17 Q. Dr. Lee, you're an expert in taking sediment samples,
18 aren't you?

19 A. Yes.

20 Q. And so when you decided how to take sediment samples on
21 the core, you had several things to consider, did you not?

22 Number one, let me just ask a direct question. You used a
23 box corer to take sediment samples; correct?

24 A. Yes.

25 Q. And the advantage of taking that, using that type of

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1 device, the one that's on the left, is that it takes the

2 surface sediment accurately; correct?

3 A. That's one of the advantages.

4 Q. And one of its disadvantages may be that it doesn't
5 sample as deep down into the sediment column as other types
6 of sampling devices; correct?

7 A. That's correct.

8 Q. So when you in your survey in 1992 wanted to be sure
9 that you were taking an accurate characterization of the
10 surface of the sediments, you used a box core; correct?

11 A. In addition to other sampling devices, yes.

12 Q. You also used a gravity core.

13 A. Yes.

14 Q. The gravity coring device has the advantage of being
15 able to penetrate deeper into the sediment column; correct?

16 A. That is typically correct, yes.

17 Q. And so but one of the disadvantages of it is the fact
18 that it has these teeth down on the bottom, has a tendency
19 to blow away the surface sediment; correct?

20 A. Yes. I'm not sure "blowing away" is exactly the

21 process, but --
22 Q. Well, it removes -- you don't get an accurate sample of
23 the surface.
24 A. Sometimes part of the surface is lost.
25 Q. And you used both of these types of devices; correct?

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1 A. Yes.
2 Q. In your main report, sir, you gave careful
3 consideration to this. Could I ask you to -- Do you have a
4 copy of Exhibit 3012, your main report, before you -- your
5 expert report?
6 A. Not the entire report, no.
7 MR. LYTZ: We moved this into evidence yesterday.
8 MR. KUSHNER: 3012 is excerpts of --
9 MR. LYTZ: I'm sorry.
10 BY MR. LYTZ:
11 Q. This is from your report, sir.
12 Could you go to the blowup, please. Go back,
13 please.
14 At the -- In your report, sir, let me -- this is
15 from page 10 -- you wrote, "Gravity corers are known to
16 incompletely sample the surface of the sediment column
17 mainly because of the presence" -- of the fingers -- "at the
18 bottom of the corer that opens only when the sediment
19 strength exceeds a threshold value."
20 This is the view you contemplated this gravity
21 coring problem in your exercise; correct?
22 A. Yes.
23 Q. And then when you found that --
24 Would you go to the next page, please.
25 When you found that you had taken those samples,

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1 you had to make a correction with the gravity corer in order
2 to make it comparable to the box corer because the top had
3 been blown off or had been removed by the gravity coring
4 device; right?
5 A. Yes.
6 Q. And the problem with the gravity coring device is that
7 if you don't make an adjustment, you can come up with a
8 false sample; you get a false impression of how deep of the
9 concentration in the sediment, how deep inside the sediment
10 core that you're actually sampling; isn't that true?

11 A. Yes.
12 MR. KUSHNER: Objection. The characterization is
13 false, your Honor.
14 THE COURT: The objection is overruled.
15 BY MR. LYTZ:
16 Q. Now, the LACSD used what type of sampling device, sir?
17 A. Their sampling device is called the Bascomb corer.
18 It's a gravity corer.
19 Q. And so it, too, would be a type of coring device that
20 would lose sediment from the surface; correct?
21 A. Yes.
22 THE COURT: Stop with the gravity core. Let's get
23 down to the point.
24 BY MR. LYTZ:
25 Q. These are figures from your report, sir. Can you

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1 describe for the Court generally what's reflected here?
2 These are sediment profiles that come from your main report,
3 do they not?
4 A. Yes. These are profiles through a number of cores --
5 this is the data from a number of cores over a period of
6 years. This extends, I believe, along the 60 meter isobath
7 counterline corresponding to 60 meters.
8 Q. All right. Now, the figure that's labeled 1989, that
9 was from LASCDC core data; correct?
10 A. That's the second one from the bottom?
11 Q. Yes, sir.
12 A. Yes.
13 Q. And the very bottom one the 1992 figure, that's
14 reflective of the analytic -- of the results that you
15 obtained using your box coring device or a combination of
16 box cores and gravity cores.
17 A. Yes.
18 Q. There is a difference between these two. One is a
19 1989, and one is a 1992, and it's your opinion that there
20 wasn't a substantial change in the sediment distributions
21 during that period of time; correct?
22 A. Yes.
23 Q. Now, in looking at the gravity coring device in 1989,
24 high concentrations are much closer to the surface of the
25 sediment than there are in the 1992 frame, aren't they?

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1 A. Yes.
2 Q. When you plotted -- These are your plots of the LACSD
3 data --
4 A. Yes, sir.
5 Q. -- is that correct?
6 A. Those are our plots. We generated them from the LACSD
7 data, that's right.
8 Q. And you took their data, and you plotted it out without
9 making any adjustments.
10 A. That's correct.
11 Q. All right. You didn't make any adjustments in the
12 LACSD data for the loss of core top because of the gravity
13 coring device.
14 A. No, we did not.
15 Q. However, you did in your -- using the box coring device
16 down in 1992, the sediment concentrations are much deeper in
17 the sediment layer, aren't they, sir?
18 A. Yes, they are.
19 Q. When you were presenting information to the Court
20 yesterday, you were presenting information from the LACSD
21 data. One of the things that you presented was their 1993
22 results; correct?
23 A. That is correct.
24 Q. They showed high concentrations close to the surface,
25 did they not, sir?

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1 A. Yes, they did.
2 Q. They showed concentrations that looked a great deal
3 like the 1989 data that are displayed here on your chart,
4 did they not, sir?
5 A. Yes. I would like to make a comment about these plots,
6 though.
7 Q. Would you please just answer my question, sir.
8 A. Okay. Could you ask it again, please.
9 Q. That what you showed the Court yesterday, the 1993
10 plots of data on your exhibits, they showed
11 characterizations of high concentrations of sediment very
12 close to the surface, much like the 1989 plot does here;
13 correct?
14 A. Actually the data I showed yesterday did not show
15 surface concentrations for '93, I don't believe.
16 Q. Well, they did show concentrations very close to the
17 surface.
18 MR. KUSHNER: Objection, your Honor. He's

19 mischaracterizing the exhibit.

20 THE COURT: It looks like we have to now, for just
21 a moment, interrupt because I just got a note that the Chief
22 Judge has set a photo opportunity for the Court, and we're
23 all supposed to be there.

24 (Recess.)

25 THE COURT: All right.

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1 BY MR. LYTZ:

2 Q. Dr. Lee, could I direct your attention to the screen
3 again. I just have a couple more questions for you.

4 Based on the sampling that you did with the box
5 coring device in 1992, you would conclude that the highest
6 concentrations of DDE are now buried beneath at least 20 or
7 maybe 30 centimeters of cleaner settlement; is that correct,
8 sir?

9 A. At these locations for this line, yes.

10 Q. This is along the seabed line.

11 A. Could you repeat your question. I'm sorry, I didn't
12 understand it.

13 Q. Based on the sampling that you did with the box coring
14 device in 1992, you would conclude along the 60 meter fathom
15 strand that you took here that the highest concentrations of
16 DDT are buried beneath 20 or 30 centimeters of cleaner
17 sediment.

18 A. We're not convinced that these stations are at 60
19 meters.

20 MR. LYTZ: Move to strike, your Honor.

21 THE COURT: The objection is overruled.

22 BY MR. LYTZ:

23 Q. Where is this line located then, sir?

24 A. It's located at otter depths which are typically more
25 shallow than 60 meters.

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1 Q. What's the depth?

2 A. I don't recall. 56 -- I don't recall. I would need to
3 look at my report.

4 Q. At whatever location you took this, you would agree,
5 would you not, Doctor, that there are at least 20 or 30
6 centimeters of cleaner sediment overlying the high
7 concentrations of DDE?

8 A. There are lower concentrations -- there's a zone of

9 lower concentrations overlying the higher concentrations --
10 more highly-concentrated zone.
11 Q. This is from the exhibit summary of your main report,
12 Dr. Lee.
13 You wrote here that after the White's Point
14 Outfall began operations, sedimentation on the Palos Verdes
15 Margin was significantly altered. Organic matter, geologic
16 material and pollutants released through to the diffuser
17 pipes mixed with sediment coming from other sources
18 including rivers, beaches, bluffs and the Portuguese
19 landslide to produce the effluent affected sediment deposit;
20 correct, sir?
21 A. That's correct.
22 Q. If DDE were on sediments coming from river sources
23 passing across the Palos Verdes Shelf, that, too, would come
24 to be located in the effluent affected deposits, wouldn't
25 it, sir?

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1 MR. KUSHNER: Your Honor, I object. It's well
2 beyond the scope of this expert's testimony.
3 THE COURT: The objection is sustained.
4 BY MR. LYTZ:
5 Q. Dr. Lee, one last question. Could I ask you to turn to
6 page 4 of your affidavit. I draw your attention to lines 9
7 through 11.
8 "The distribution of DDT compound concentration
9 and mass per unit area with respect to the diffusers
10 strongly suggests that the diffusers were the source of the
11 compounds."
12 Do you see that, sir?
13 A. Yes, I do.
14 Q. Is that statement included anywhere in your expert
15 report?
16 A. I don't know.
17 MR. LYTZ: Move to strike, your Honor.
18 THE COURT: The objection is overruled.
19 BY MR. LYTZ:
20 Q. Sir, would you like to investigate your report, please.
21 A. Since it's a lengthy report, it would take a while.
22 MR. LYTZ: Your Honor, it's an important --
23 THE COURT: We're not going to take the time,
24 Counsel.
25 ///

1 BY MR. LYTZ:

2 Q. You don't know the answer to the question, Doctor?

3 THE COURT: He said he didn't know. That's what
4 he said.

5 MR. LYTZ: No further questions, your Honor.

6 THE COURT: Redirect?

7 MR. KUSHNER: Just a few questions, your Honor.

8 REDIRECT EXAMINATION

9 BY MR. KUSHNER:

10 Q. Dr. Lee, are the locations in which LACSD sampled
11 sediment different from the stations that USGS sampled
12 sediment? Are the stations, the actual location where LACSD
13 sampled the sediment on the Palos Verdes Margin different
14 from the locations that were occupied by the USGS during its
15 sampling cruise in 1992?

16 A. Every sampling station is different because you never
17 are able to sample it exactly in the same location each
18 time.

19 There were a few stations at which we hoped to
20 reoccupy LACSD stations, if that's what you mean; and we
21 feel that in many of those cases we were not able to
22 reoccupy -- we did not reoccupy the same stations that LACSD
23 had occupied previously.

24 Q. In your opinion, sir, what's the significance of having
25 occupied different sampling stations than the LACSD

1 stations?

2 A. That clearly the characteristics of the stations that
3 we occupied would be different from the LACSD stations.

4 Q. How would they be different?

5 A. Well, they could be different in many ways. The
6 thickness of the effluent-affected layer could be greater;
7 the concentration levels could be higher or less. They
8 would just be different.

9 Q. Are you familiar with the coring device that was used
10 by LACSD during their sampling of sediment on the Palos
11 Verdes Margin?

12 A. Yes.

13 Q. And could you explain, if you could, sir, to the Court
14 what you understand -- how you understand that device works
15 and its effects on the sediments?

16 A. Yes. As I understand it, the LACSD Bascomb core was

17 built specifically to obtain high quality samples, and to do
18 that they used a thinner wall than is typically used with a
19 gravity corer. They used a more flexible core retainer, and
20 they used a wider diameter.
21 So all of those characteristics would lead to
22 better preservation of the surface.
23 Q. Dr. Lee, let me direct your attention, if I could, to
24 the LACSD sediment data for the year 1993. If my memory
25 serves me correct I believe that's Plaintiff's Exhibit 3126.

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1 And I would direct your attention, sir, to sampling station
2 8C and the p,p'-DDE values.
3 A. Yes.
4 Q. If you could, sir, could you recite the values that are
5 on that table at the two center increments as appear on that
6 table from the surface down to the 20 centimeter interval,
7 the concentrations, please.
8 A. Okay. They sample it at a 2 centimeter increments, and
9 the results are presented for the center points, so they're
10 odd numbers. For depth at 1 centimeter, it's 11.6; the next
11 increment 12.9; 22, 30.9, 69.3, 71.3, 72, 109 -- this is at
12 15 centimeters -- 114; 177 at 19 centimeters, and that goes
13 down to 20.
14 Q. And what meters are those values expressed in, sir?
15 A. Excuse me. Those are in parts per million.
16 Q. Now, Doctor, Mr. Lytz showed you some figures from your
17 expert report. I believe they're figures 8A and he
18 displayed a series of four figures. Do you recall that?
19 A. Yes.
20 Q. Do you know what values were being expressed or what
21 metabolite of DDT was being expressed in those figures?
22 A. I believe they were p,p'-DDE.
23 Q. So that figure -- Is it your opinion that that figure,
24 those figures would represent the total DDT in the sediment
25 at those locations as shown in figures?

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1 A. My understanding is that those would not express the
2 total DDT.
3 Q. What is the percentage of p,p'-DDE of total DDT, as you
4 understand it, from the Palos Verdes Margin based on the
5 1992 USGS sampling data?
6 A. It's typically about two-thirds, the p,p' is about

7 two-thirds of the total.

8 MR. KUSHNER: We have no further questions.

9 THE COURT: Recross?

10 MR. LYTZ: No, your Honor.

11 EXAMINATION

12 BY THE COURT:

13 Q. Doctor, explain to me how the box core works.

14 A. Okay. It's a 30 centimeter by 40 centimeter box. It's
15 made out of stainless steel, and it's 60 centimeters long,
16 and it's open at the bottom. So it's just four sides, and
17 there's a weight that pushes it into the seabed, and when we
18 pull up on the line there's a spade that pulls through the
19 sediment and goes underneath the box to keep it from falling
20 out, and then the whole thing is brought back to the
21 surface. So you end up with this rectangular solid of
22 sediment.

23 Q. And how does the gravity core work?

24 A. The gravity core is a metal tube. The thickness
25 depends on the specific core, but it's a metal tube of 3 to

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1 4 centimeters in diameter, and it's typically longer, like
2 maybe perhaps a meter or more in length, and it contains a
3 liner so that the sediments sample can be removed.

4 And the way the sediment is retained in the
5 gravity core is that there are flexible, we call them metal
6 fingers that open to allow the sediment to come up, and then
7 as the device is being pulled up, the metal fingers close to
8 keep the sediment in.

9 Q. All right. And in the box core, does the operation of
10 the box disturb all of the sediment that comes up throughout
11 the box?

12 A. No. The box sample is generally thought of as being in
13 good shape; it's high quality sediment because of this, the
14 large area of the --

15 Q. And the gravity core, does it upset the sediment
16 throughout the cores?

17 A. It may, although typically we think of the major
18 problem as being that we lose some of the surface material,
19 and this can vary, depending on the way the core is
20 designed, whether this was taken into consideration.

21 Q. And losing the material, what does that do to the
22 questions of whether or not they are high or low? Do they
23 get a higher reading or a lower reading?

24 A. It changes your understanding of the depth in the core.

25 And then, of course, then you're losing that part of the

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1 sediment column, so you don't really know anything about
2 that part that's lost.

3 Q. So you don't know what is lost, whether it's more
4 contaminated or less contaminated? You have no idea.

5 A. It's just not known from the gravity core if the
6 material that is lost.

7 Q. All right. And then you got into these distances and
8 you tried to arrive at the same spot. How far off would you
9 calculate you were from the actual spots in those that you
10 didn't actually do the same test?

11 A. We're not completely sure of where the L.A. County took
12 their sample because they use a different navigation system
13 for ours. So we're not sure how far off we were.

14 We believe that the water depth at our stations
15 was shallower than theirs; that they attempt to occupy a
16 particular water depth for their sampling stations, and we
17 ended up in a water depth that was several meters shallower,
18 which would indicate that we were shoreward of their
19 stations.

20 THE COURT: Thank you.
21 Anything else?

22 MR. KUSHNER: Just one question, your Honor.

23 FURTHER REDIRECT EXAMINATION

24 BY MR. KUSHNER:

25 Q. Dr. Lee, do you have an opinion as to how much sediment

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1 may be lost by the use of the LACSD core?

2 A. It's difficult to determine exactly. It's, I'm sure,
3 less than what was lost with our gravity core, which was not
4 really designed to prevent this loss of material.

5 Q. Is it your opinion that the loss of sediment at the
6 surface have any -- do you have an opinion as to whether or
7 not the loss of sediment at the surface would have any
8 impact on the concentrations of the p,p'-DDE observed in
9 core location -- observed downcore of the loss sediment?

10 A. Shouldn't have any effect on that.

11 MR. KUSHNER: Thank you.

12 MR. LYTZ: Your Honor, just one question.

13 THE COURT: All right.

14 RECROSS-EXAMINATION

15 BY MR. LYTZ:
16 Q. You sampled a core substance called DDMU, too, didn't
17 you, Doctor?
18 A. I'm sorry, what do you mean by "we sampled" for it?
19 Q. You took samples, and you analyzed the sample to see if
20 it had DDE in it; is that correct?
21 A. Yes, they were tested by a contractor for DDE.
22 Q. And you also tested for DDMU.
23 A. Yes, they also obtained values for the --
24 Q. And you found that substance throughout the Shelf;
25 correct?

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1 A. It was found, I believe, in most of the samples.
2 Q. So if you used the gravity coring device and you lost
3 material from the top, you would also lose concentrations of
4 DDMU from the top, too.
5 A. Well, we lose sediment. We don't lose concentration
6 specifically, but the sediment is lost.
7 Q. So you've lost that, and you wouldn't know whether
8 there was DDMU in that loss sediment; correct?
9 A. Yes. However, I mean, our samples were box cores, and
10 we feel that we didn't lose much of this.
11 Q. So you'd have no DDMU through that device.
12 A. We believe so.
13 MR. LYTZ: All right. Thank you, Doctor.
14 THE COURT: I just have a couple more.
15 FURTHER EXAMINATION
16 BY THE COURT:
17 Q. What is the area the encompasses what you tested?
18 A. For example, the area of these maps?
19 Q. Yes.
20 A. It's about 40 square kilometers, which is, I believe,
21 about 15 square miles.
22 Q. And how long along the coastline?
23 A. Maybe eight miles to ten miles and --
24 Q. From where to where?
25 A. From -- Well, from Point Fermin to past Point Vicente.

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1 Q. Any rivers flow in there?
2 A. No.
3 Q. Any other outfalls?
4 A. I don't believe so.

5 Q. Or any drainage ditches?
6 A. I imagine there is some drainage off the hills, but I'm
7 sure it would be minor.
8 THE COURT: All right. Anything further?
9 MR. KUSHNER: Nothing further, your Honor.
10 THE COURT: All right, you may step down.
11 MR. LYTZ: No, your Honor.
12 MR. KUSHNER: Your Honor, it's our current
13 intention not to call any other witness with respect to the
14 mass or the concentrations of p,p'-DDE or total DDT on the
15 Palos Verdes Margin.
16 We do have two witness, however, who are prepared
17 to testify regarding the accuracy and the precision of the
18 data that Dr. Lee used to make his analysis.
19 THE COURT: Well, those will be part of, I assume,
20 Dr. Lee's basis for mass.
21 MR. KUSHNER: Well, we can offer them now, your
22 Honor.
23 THE COURT: Yes, certainly.
24 MR. KUSHNER: Our next witness will be Helder
25 Costa.

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1 THE CLERK: Please come forward.
2 Please raise your right hand.
3 HELDER JOHN COSTA, PLAINTIFF'S WITNESS, SWORN
4 THE CLERK: Please be seated.
5 For the record, sir, would you please state your
6 full name and spell your last name.
7 THE WITNESS: Helder John Costa, C-o-s-t-a.
8 MR. KUSHNER: Your Honor, if I could have just one
9 moment. I'm looking for my outline which is in a box.
10 THE COURT: All right.
11 DIRECT EXAMINATION
12 BY MR. KUSHNER:
13 Q. Mr. Costa, where are you currently employed?
14 A. With the Woods Hole Group.
15 MR. LYTZ: Excuse me, your Honor. In the interest
16 of time, the defendants are willing to stipulate to the
17 accuracy of the data.
18 THE COURT: Thank you, Mr. Costa.
19 MR. KUSHNER: We would offer the testimony of
20 Helder Costa and Ann Bailey into evidence at this time,
21 together with the exhibits attached thereto.
22 THE COURT: All right. In evidence.

23 THE WITNESS: Thank you, your Honor.
24 THE COURT: Thank you.
25 MR. O'ROURKE: Your Honor, just to clarify, the

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1 testimony of Terry Wade is another analytical chemist. The
2 defendants are willing to stipulate that his data is exact
3 and precise as well.
4 MR. LYTZ: So stipulated. .
5 MR. O'ROURKE: So we will submit his testimony
6 into the record. It doesn't technically go to the question
7 of the mass of the sediment. It goes to concentrations in
8 other organisms; but since we're dealing with the chemistry,
9 we're just going to get it off the table.
10 And we'll supply the written testimony of Terry
11 Wade and submit it.
12 THE COURT: I don't have Wade's testimony yet.
13 MR. O'ROURKE: I am about to bring it up, sir.
14 Thank you.
15 THE COURT: Oh, I have it. I'm sorry.
16 MR. O'ROURKE: Your Honor, we need a little -- I
17 want to describe what we think you told us this morning
18 about how far to proceed through the case before we stop.
19 We think that yesterday we covered roughly the
20 following issues: How the plant operated, its releases to
21 the local neighborhood, stormwater pathway, aerial releases
22 through the neighborhood and its discharges through the
23 sewer system; and their ocean dumping out in the ocean
24 dumpsites; and that today and last night we covered how much
25 DDT is piled up on the Palos Verdes Shelf.

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1 We understand from what you said this morning that
2 this is where we're supposed to stop, and the defendants are
3 supposed to start.
4 THE COURT: Yes, uh-huh.
5 MR. O'ROURKE: To clarify, when we come back, we
6 plan to start to talk about where these contaminations from
7 the ocean floor moves and --
8 THE COURT: That's a different issue.
9 MR. O'ROURKE: -- from the other sources and
10 moves, and moves up.
11 Thank you. So with that we rest our case on the
12 initial issue.

13 THE COURT: On that issue.
14 MR. O'ROURKE: Thank you.
15 MR. WOLKOFF: Your Honor, the defendants -- Harvey
16 Wolkoff. The defendants also would like a bit of
17 clarification.
18 Your Honor has already found that its Montrose's
19 DDT out at the Palos Verdes Shelf. We acknowledge that --
20 THE COURT: It's my understand, from the opening
21 statements, et cetera, that you think there's not any, and
22 there are other sources of this pollution that we're talking
23 about, and the Government has their question about what the
24 mass is.
25 MR. WOLKOFF: No, your Honor. What we were

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1 addressing is what we see and Mr. O'Rourke said in his
2 opening is the first issue in this case, which is is
3 Montrose's DDT the cause of the injury to the birds. We
4 don't contest.
5 Your Honor's already found that its Montrose's DDT
6 out at the Palos Verdes Shelf. Indeed, your Honor, we do
7 not contest -- as I said in my opening, I believe that it's
8 Montrose's DDT -- you know, the white croaker root around in
9 the sediments that's causing injury to those white croaker.
10 Indeed, your Honor, we objected to all of this
11 testimony, or much of it coming in, as being irrelevant.
12 What we're concerned with is the --
13 THE COURT: I didn't hear any stipulation as to
14 any mass or any agreement as to any mass.
15 MR. KUSHNER: In fact, you're absolutely correct,
16 your Honor. These defendants offered different opinions
17 about the mass in the testimony of John Lytz, and that
18 remains an issue, and I think that we should require the
19 defendants to put their proof on about that.
20 THE COURT: Yes.
21 MR. WOLKOFF: Well, your Honor, the issue is the
22 source to the birds. Does your Honor want to hear --
23 THE COURT: Well, depending upon the mass, I take
24 it, is a question of what gets there.
25 MR. KUSHNER: Bound up in the question of

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1 substantial cause, your Honor, is the question of the amount
2 and its availability. One of the issues this Court needs to

3 resolve is where the DDE -- DDT is located on the Shelf, at
4 what heights, and in what amount.
5 THE COURT: Yes.
6 MR. WOLKOFF: And that's what your Honor wants to
7 hear from the defendants.
8 THE COURT: That's right.
9 MR. WOLKOFF: Fine, your Honor.
10 MR. O'ROURKE: Your Honor, I would just clarify.
11 Mr. Wolkoff kept discussing only the birds, which is the
12 natural resource damage claim, the first claim.
13 THE COURT: No, I understand.
14 MR. O'ROURKE: The second claim, they're still
15 disputing liability for the neighborhood and the stormwater
16 pathways. It's the same issue we feel we won in April.
17 They feel they are not liable for it. So it's again a
18 source issue. We put our proof on yesterday. We think that
19 that's what they should be doing now.
20 THE COURT: Yes.
21 MR. WOLKOFF: Yes, your Honor, we understand that,
22 and so we're not going to put in our evidence with respect
23 to causation on birds, we're going to be talking about the
24 mass of DDT on the Palos Verdes Shelf -- where it is, if
25 it's biodegraded, and those issues.

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1 THE COURT: And its source.
2 MR. WOLKOFF: Yes, your honor.
3 Just one slight scheduling issue, your Honor. In
4 view of the Court's desire to hear from the defendants on
5 the mass, we would request a short break to allow us to get
6 the proper documents into the courtroom and our outlines,
7 and what have you.

8 THE COURT: Okay. Why don't we come back at
9 1 o'clock.

10 MR. WOLKOFF: Thank you, sir.
11 (Luncheon recess.)
12

13 REPORTER'S CERTIFICATE

14
15 I CERTIFY THAT THE FOREGOING IS A CORRECT
16 TRANSCRIPT FROM THE RECORD OF PROCEEDINGS
17 IN THE ABOVE-ENTITLED MATTER.
18

19 _____ October 18, 2000 _____
LEONORE A. LeBLANC

20 Official Reporter

21

22

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1 UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
3 WESTERN DIVISION
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14 CROSS-CLAIMS AND THIRD-PARTY)

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17 REPORTER'S TRANSCRIPT OF PROCEEDINGS
Los Angeles, California
18 Wednesday, October 18, 2000
1:00 a.m.
19 Afternoon Session

20

21 Volume 2 DEBORAH D. PARKER, CSR 10342
22 Pgs. 280 - 411 OFFICIAL COURT REPORTER
408 UNITED STATES DISTRICT COURT
23 312 NORTH SPRING STREET
LOS ANGELES, CALIFORNIA 90012
24 (213) 894-6603

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EDWARDS, Brian Douglas 348 363

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WHEATCROFT, Robert 374 392 410

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DEFENDANTS' WITNESSES: DIRECT CROSS REDIRECT RECROSS

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3 THE CLERK: The court is now in session. Please be
4 seated and come to order.

5 THE COURT: All right. Call your next witness.

6 MR. WOLKOFF: May it please Your Honor, defendants
7 call as their first witness Dr. John List.

8 THE COURT: All right.

9 THE CLERK: Please come forward.

10 Please raise your right hand.

11 ERICKSON JOHN LIST, DEFENDANTS' WITNESS, SWORN.

12 THE CLERK: Please be seated.

13 For the record, sir, would you please state your full
14 name and spell your last name.

15 THE WITNESS: Erickson John List, L-i-s-t.

16 DIRECT EXAMINATION

17 BY MR. WOLKOFF:

18 Q. Good afternoon, Dr. List. Could we start out by your
19 telling the court by whom you are employed?

20 A. I'm currently the president of Flow Science, Incorporated
21 and emeritus professor at the California Institute of
22 Technology in Pasadena.

23 Q. And in connection with your position as emeritus professor
24 at Cal Tech, did you have occasion, sir, to work as a professor

25 at that institution for some period of time?

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1 A. For 27 years.

2 Q. And what years were those, sir?

3 A. 1969 through 1997.

4 Q. And what department was it that you were a professor in at
5 Cal Tech?

6 A. Environmental Engineering Science.

7 Q. Were you also at any point in time chair of that
8 department, sir?

9 A. I was chair of that department for five years.

10 Q. And while you were at Cal Tech, did you have occasion
11 actually to teach any courses?

12 A. I did on occasion. I taught courses in coastal
13 oceanography and meteorology, fluid mechanics, particle
14 coagulation, fate and transport of pollutants, engineering
15 mathematics.

16 Q. Did you have occasion as well to do research?

17 A. Yes, I did research on a continuing basis all the time I
18 was there.

19 Q. What types of topics did you perform research on while you
20 were at Cal Tech?

21 A. Coastal oceanography, density, stratified flows, turbulent
22 mixing, particle coagulation and flow in porous media.

23 Q. And have you also had occasion while you were at Cal Tech
24 and after to consult?

25 A. Yes, extensively.

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1 Q. And on what topics have you consulted on, sir?

2 A. Disposal of wastewater, fate and transport of pollutants.

3 Q. Now, what is your educational background, Dr. List?

4 A. I received a bachelor's degree in engineering and a
5 bachelor's degree in mathematics and master's degree in civil
6 engineering, Ph.D., from California Institute of Technology.

7 Q. Have you had occasion, Dr. List, to study certain issues
8 in connection with the DDT at the Palos Verdes Shelf?

9 A. Yes, I have.

10 Q. And for how long a time period have you studied that set
11 of issues?

12 A. For eight years.

13 Q. And when did you start?

14 A. In 1992.

15 Q. And have you done a report in this matter, sir?

16 A. Yes, I have. It's Exhibit 9223.

17 Q. Thank you. Have you as a result of your work reached

18 opinions on such topics as how much DDT is out there at the

19 Palos Verdes Shelf, where it is in the sediment bed at the

20 Palos Verdes Shelf, what is happening to it and where it came

21 from, sir?

22 A. Yes, I have.

23 Q. And what years did your analysis cover?

24 A. 1937 to 1997.

25 Q. Now, before I ask you about the work that you have done

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1 and your opinions, I would like to have flashed on the board a

2 map of the Palos Verdes Shelf and the Channel Island.

3 Could we begin, sir, by your pointing out just where

4 it is, this area known as the Palos Verdes Shelf.

5 A. Palos Verdes Shelf is located at this, right -- right in

6 here (indicating). And it's about 21 miles from Catalina and
7 about 56 miles from the smallest channel island, Anacapa
8 Island.

9 Q. And where is the White's Point outfall on the Shelf?

10 A. White's Point outfall is located about right here -- right
11 there (indicating).

12 Q. And where is the outline of the DDT that we have heard
13 about, sir?

14 A. That's on a shelf located about eight miles by two miles
15 parallel to the Palos Verdes Peninsula.

16 Q. Let me start out with respect to your opinions, sir, by
17 asking you whether or not you have reached an opinion as to how
18 much DDT there is in the sediment bed in that area at the Palos
19 Verdes Shelf.

20 A. Yes. I have reached an opinion on that. I took the U.S.
21 Geological Survey data from 1992 and calculated between 60 and
22 70 tons of p,p'-DDE present in the Palos Verdes Shelf
23 sediments.

24 Q. And how much does that translate into in terms of total
25 DDT?

1 A. About 100 tons.

2 Q. And have you also had occasion to look at how much DDT
3 there was in the sediment bed at the Palos Verdes Shelf at any
4 time prior to 1992?

5 A. Yes. I took the data, core data that had been collected
6 by David Young and others on the Palos Verdes Shelf in 1972 and
7 calculated in excess of 200 tons of DDT in the Palos Verdes
8 Shelf in 1972.

9 Q. So your calculations show 200 tons of DDT in the sediments
10 back in '72 and 100 tons approximately in '92; correct?

11 A. That's correct.

12 Q. And have you formed any opinions as to where that DDT
13 between 1972 and 1992, the hundred tons -- what's happened to
14 that?

15 A. It's gotten buried deeper and deeper into the sediments in
16 that period of time. It's biodegrading within the sediments on
17 the Palos Verdes Shelf.

18 MR. KUSHNER: Your Honor, at this point in time, we
19 are going to object to Dr. List as an expert in the field of
20 biodegradation. We don't believe that he is qualified to
21 render such opinions.

22 THE COURT: Are you qualified in that?

23 MR. WOLKOFF: Yes, Your Honor.

24 BY MR. WOLKOFF:

25 Q. Have you had occasion to review in this case, sir, the

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1 issued of biodegradation of the DDT --

2 THE COURT: No, not in this case. Qualify him.

3 BY MR. WOLKOFF:

4 Q. Have you had occasion, sir, in the past to do work in

5 connection with biodegradation of any chemicals?

6 A. Yes, I have.

7 Q. Could you describe to the court the sorts of things that

8 you have done in that area?

9 A. I have attended seminars, extensive seminars in the

10 reductive dechlorination of organic chlorines.

11 Q. Now, do you consider yourself to be an expert in whether

12 biodegradation is actually occurring as opposed to how it

13 occurs or if it occurs, sir? The process?

14 A. I can recognize it when it occurs. I am not an expert in

15 electron transfer processes that occur in the actual bacterial

16 actions. It can be one of two different actions, like an
17 enzymal action or a bacteria that live on it.

18 I'm not an expert in that, but I know who to consult
19 when those issues arise.

20 Q. And how is that you are aware of those type of issues?

21 A. I studied the Palos Verdes Shelf and was able to identify
22 biodegradation occurring on the Palos Verdes Shelf, and I have
23 been acknowledged as doing so by some people who have
24 subsequently shown it to occur in laboratory studies.

25 Q. Have you also done any reading in connection with the

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1 issue of biodegradation?

2 A. I have done extensive reading in connection with
3 biodegradation.

4 Q. Is that in the published scientific literature, sir?

5 A. Yes. I studied the biodegradation of DDT compounds and
6 was able to recognize that a DDE compound could likely
7 biodegrade to ddmu. The current thinking was that DDE could
8 not biodegrade at all.

9 But it occurred to me that if the DDE was
10 disappearing on the Palos Verdes Shelf, there was a potential
11 for it to have biodegraded into ddmu.

12 I consulted the literature and found that to be the
13 case and then studied the data that had been collected from the
14 Palos Verdes Shelf, went into the chemical analyses, found that
15 ddmu was present on the Palos Verdes Shelf, consulted with an
16 expert in reductive dechlorination processes, electron transfer
17 processes, who subsequently did some studies and showed that
18 that in fact was occurring on the Palos Verdes Shelf.

19 So I consider myself an expert on the recognition of
20 biodegradation processes.

21 Q. I was actually going to ask you about your testimony,
22 Dr. List, about the DDT getting buried.

23 MR. KUSHNER: Your Honor, may I interpose a couple
24 questions as to his qualifications?

25 THE COURT: Yes.

3 VOIR DIRE EXAMINATION

4 BY MR. KUSHNER:

5 Q. Dr. List, did you testify in your deposition on this
6 matter that you are not really an expert in the field of
7 biodegradation?

8 A. I'm not. And I'll qualify that by saying I'm not an
9 expert in the electron transfer processes that are the detailed
10 mechanism by which biodegradation occurs.

11 MR. KUSHNER: I'll move to strike that response.

12 BY MR. KUSHNER:

13 Q. Do I need to show you a copy of your deposition?

14 A. No, you don't need to show me a copy of the deposition.

15 Q. Dr. List, in your deposition, you were asked specifically,
16 "now" -- quote: "Now, do you consider yourself to be an
17 expert in the area of biodegradation," end quote.

18 The answer was, quote: "Not really," end quote.

19 That's at page 63, Volume I, line 7 of your
20 transcript.

21 Do you agree with that statement there?

22 A. Yes, with the qualifier "really."

23 Q. "Not really."

24 A. "Really."

25 MR. KUSHNER: We have no further questions.

1 /

2 /

3 DIRECT EXAMINATION, RESUMED

4 BY MR. WOLKOFF:

5 Q. What did you mean by that, Doctor?

6 A. That I'm not an expert in the electron transfer processes,

7 in the microbiological processes that exist, that actually

8 caused biodegradation.

9 But where the biodegradation, one molecule is

10 transferred into another, I'm as capable an expert of

11 recognizing that as anybody.

12 Q. Now, I want to go back to your testimony about the DDT

13 getting buried.

14 MR. KUSHNER: Your Honor, might we have a ruling on

15 the expertise of Dr. List?

16 THE COURT: Yes. And it's sustained.

17 MR. KUSHNER: Thank you, Your Honor.

18 MR. WOLKOFF: Well, Your Honor, may he be permitted

19 to testify about recognizing biodegradation?

20 THE COURT: No. No. He's not an expert.

21 BY MR. WOLKOFF:

22 Q. Dr. List, with respect to your testimony that the DDT out

23 at the Palos Verdes Shelf is getting buried, have you done any

24 charts that reflect that?

25 A. Yes. I have prepared some charts using all of the data

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1 that I could obtain that showed the presence of DDE and ddmu

2 and other compounds in the Palos Verdes Shelf. And this is one

3 such chart.

4 MR. WOLKOFF: Your Honor, may he be allowed to

5 approach the chart to explain.

6 THE COURT: Does he have a light, like everybody else

7 has?

8 BY MR. WOLKOFF:

9 Q. Do you have a light, sir?

10 A. Yes, I have one, Your Honor.

11 Q. Could you explain to the court what this particular

12 chart -- this figure shows?

13 A. Could you slide the chart over slightly.

14 This chart is a summary. It has a lot of information
15 on it. It is very confusing. It looks like a spaghetti
16 chart. But it has all of the known data from location 6C from
17 the years 1972 to 1995.

18 In 1972 is the concentration of DDE in the sediments
19 showing approximately 325 parts per million at a depth of 10
20 centimeters. As subsequent years went by, that concentration
21 became lower in the samples.

22 And if we come down here to the sample at the bottom
23 here, which is 1995, I believe, LACSD data, it shows the
24 concentration was approximately 170 parts per million, now at a
25 depth of 40 centimeters.

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1 Excuse me. That was in 1992 from the United States
2 Geological Survey.

3 So the peak concentration dropped from approximately
4 350 parts per million down to about 180 parts per million in
5 the 20-year period. And the peak concentration went down from

6 10 centimeters down to 40 centimeters in that period of time.

7 Q. Let me show you another figure from your report, sir,

8 Figure 7.

9 Can you use this figure and explain to the court

10 again the basis for your opinion on the DDT getting buried and

11 reducing in concentration?

12 A. This is another figure using, again, data collected from

13 another location approximately seven kilometers from the --

14 seven to eight kilometers from the outfall. And in 1972, the

15 peak concentration at this site was approximately 130 parts per

16 million and at a depth of five centimeters.

17 It dropped continuously until, in 1995, the

18 concentration was down to 10 centimeters and approximately 30

19 centimeters below the surface, showing in these two figures

20 continual reduction in the peak concentrations of DDE in the

21 sediments and substantial burial from five centimeters down to

22 35 centimeters or so in a period of 20 years.

23 Q. Finally, let me show you a third figure from your report.

24 It also is something that we looked at this morning during Homa

25 Lee's testimony.

1 A. Yes, I prepared this figure from Homa Lee's report. It
2 shows a different way of presenting the data. Where I showed
3 temporally from 1972 to 1995, this shows from 1981 to 1992.

4 Q. Which one is the 1981, Dr. List?

5 A. This one on the bottom is 1981.

6 Q. And what's the next one?

7 A. It's 1987, 1989, 1992.

8 Just let me explain what these figures are. The
9 bright red here is concentrations in excess of 100 parts per
10 million. And this is the surface of the sediments at this
11 point here (indicating) and these vertical lines are where the
12 bore holes were made for the samples to be taken.

13 What we see in these graphs as you proceed from 1981
14 to 1987, the DDE got buried significantly deeper and got buried
15 deeper again in 1989 and got buried deeper again in 1992. And
16 you notice that the size of the red area is shrinking so that
17 the peak concentrations are reducing, which is what the
18 previous two graphs show.

19 So we see unequivocally over a period of time the DDE
20 is getting buried and the concentrations are shrinking,
21 reducing.

22 Q. Now, apart from what you just described, is there any

23 other evidence or indication that you are aware of that the DDT
24 out at the Palos Verdes Shelf is getting buried over time?
25 A. Yes. We had cores to prepare another publication looking

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1 at the metals data. The Los Angeles County Sanitation
2 Districts' outfall not only discharged DDT, it discharged a
3 significant number of metals. It displayed copper and zinc and
4 lead and chromium and nickel and cadmium and a whole bunch of
5 metals.

6 What I want to focus on here --

7 Q. Before we get to your describing this --

8 A. Can you slide it over to the right here?

9 Q. This is a figure, sir -- where does this come from?

10 A. This comes from a paper that Dr. Paulsen and Dr. Santschi
11 and myself published in Environmental Science and Technology
12 about a year or two ago, looking at the analysis of metal
13 profiles in the sediment, because we felt looking at metal
14 profiles, in particular copper and zinc and lead 210 would cast
15 some light on the processes that were involved in the Palos

16 Verdes sediment.

17 Q. And is this paper, this published paper -- it's in the
18 peer review literature, I take it, sir?

19 A. Yes, it is.

20 Q. And is that in the volume that appears in front of you?

21 Could you point out for the court which tab it is?

22 A. It's 9223 and it's Attachment A.

23 Q. Now, you indicated before I cut you off that this figure
24 relates to metals down at the Palos Verdes Shelf; is that
25 right?

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1 A. It might help, Your Honor, if the number on the bottom
2 right-hand corner is 10031181.

3 Yes, these data -- we were fortunate to locate some
4 data that a scientist at Scripps Institution of Oceanography
5 had done measurements of metals in the Palos Verdes Peninsula
6 in 1970. This upper graph is a graph of the concentrations of
7 zinc at location 6C on the Palos Verdes Peninsula at 2400 parts
8 per million in 1970.

9 Q. Why is it that you're looking at the metals like zinc at

10 the Palos Verdes Shelf? What's the significance of that?

11 A. Because it came out of the outfall in the same way that

12 DDT did. And we know that metals behave the way metals behave

13 in sediments. We didn't know the way DDE behaves in

14 sediments.

15 Metals cannot biodegrade. Metals can't get

16 transferred out of the sediments by biodegradation processes.

17 Q. Looking at the figure, can you describe how that

18 demonstrates, if it does, that the DDT is being buried out at

19 the Shelf?

20 A. Well, in 1970, the peak concentration of zinc was 2400

21 parts per million and it was at the surface. By 1993, that

22 peak concentration was still 2400 parts per million, but it was

23 now buried some 35 centimeters below the surface.

24 So the zinc concentration in the sediment remained

25 unchanged over a period of 23 years and was buried. Now, you

1 contrast this with the previous graphs I showed you where the

2 DDE got buried, but the concentrations were reduced.

3 MR. KUSHNER: Your Honor, might I interject here. I
4 thought that this portion of the defendant's case was related
5 to the amount of DDT present in the Palos Verdes Shelf, not
6 what is happening to it or where it is going.

7 And so I'm a little confused that we are straying a
8 bit far afield here.

9 MR. WOLKOFF: No, Your Honor. We did the amount. He
10 said there were 100 tons as of his analysis in 1992, 200 tons
11 in 1972. We are going through what happened to the DDT --
12 what's happening to it out there.

13 MR. KUSHNER: Excuse me, Mr. Wolkoff.

14 Your Honor, I think that plaintiffs are entitled to
15 put their case on first.

16 THE COURT: That's right on that question. We are
17 only as to the mass and the source.

18 MR. WOLKOFF: And not whether or not it's getting
19 buried or are the concentrations going down, if I understand
20 Your Honor correctly?

21 THE COURT: It's not the question of whether or not
22 there's any effect or what that mass does.

23 BY MR. WOLKOFF:

24 Q. Dr. List, I want to then concentrate -- limit ourselves to
25 those couple of questions.

1 Your Honor, would that include DDT flushing out of
2 the sediment bed or no? We are going to skip -- defer that for
3 now.

4 MR. KUSHNER: Your Honor, we have an expert that we
5 are prepared to put on that relates to the issues of
6 bioturbation flux and we think we get to put on our case first.

7 THE COURT: Yes. That's right.

8 BY MR. WOLKOFF:

9 Q. Now, with respect to the DDT, the DDT that's out there
10 today, sir, do you have an opinion on what the source or the
11 sources of that DDT at the Palos Verdes Shelf is?

12 A. Yes. If I can confine myself to a 60 meter isobath, then
13 I believe that there are three sources for the DDT which are
14 currently present.

15 Q. When you say the "60 meter isobath," why are you confining
16 yourself to that?

17 A. Because most of the evaluation and sampling has been done
18 at the 60 meter isobath. We have the longest record of samples
19 at the 60 meter isobath.

20 Q. And what records are you referring to?

21 A. To the core samples of the -- that have been taken on the
22 Palos Verdes sediments.

23 Q. And taken by whom, sir?

24 A. By various individuals. There is -- the United States
25 Geological Survey has taken them, the county sanitation

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1 districts have taken them, the Southern California Coastal
2 Water Research Project has taken them. We have taken them
3 ourselves.

4 Q. Now, could you tell the court what is an isobath, what
5 you're talking about when you mention that word?

6 A. It's a line of constant depth, of 60 meter water depth.

7 Iso --

8 Q. So you are talking about the depth of the water?

9 A. Depth of the water.

10 Q. And what is the depth of the water out where this DDT is,
11 this so-called footprint?

12 A. The highest concentrations are located in water which is

13 60 meters deep, on the 60 meter isobath. That's the location

14 of the outfall.

15 Q. Going back to my previous question then about the DDT

16 that's in the surface sediments out there at the 60 meter

17 isobath at the Palos Verdes Shelf, do you have an opinion about

18 where that DDT comes from, sir, or came from?

19 A. Yes, I have. As I mentioned, I believe there are three

20 possible sources for this DDT.

21 I believe some of it is still coming out of the

22 outfall. The sewers are still being cleaned.

23 Some of it is coming from fine sediment that is

24 picked up inshore and is deposited offshore.

25 And some of it is actually extracted or scavenged out

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1 of the water column. This paper that I had up on the screen

2 here a minute ago --

3 Q. Your paper, sir?

4 A. Yes, the paper on lead 210 -- lead 210 behaves exactly the

5 same way as DDE behaves in the water column. It attaches to

6 carbon particles in the water, so that if DDT were in the water

7 and attached to the carbon particles in the water and deposited
8 on the sediments, lead 210 would behave in exactly the same
9 way.

10 And this paper was an analysis of an anomalous or an
11 extra deposition of lead 210 on the Palos Verdes Peninsula.

12 Q. And could you describe in laymen's terms, sir, what, if
13 anything, is the significance of that?

14 A. Well, the significance of it is that if lead 210 is
15 scavenged out of the sediment and created in the concentrated
16 pile on the Palos Verdes Peninsula, then one would expect DDE
17 to behave in exactly the same way. That's why I believe that
18 there is DDE that is being extracted out of the water and
19 deposited on the surface sediments in the same way that the
20 lead 210 is.

21 Q. And when you say "extracted out of the water," do you know
22 or have any opinion as to where the DDT in the water is coming
23 from, sir?

24 A. It's probably coming out of the rivers as --

25 MR. KUSHNER: Your Honor, we move to strike. This

1 portion of Dr. List's testimony is based exclusively on the
2 work of Inman, which Your Honor struck prior to trial.

3 MR. WOLKOFF: I don't believe so, Your Honor. Let me
4 lay a foundation.

5 THE COURT: All right.

6 BY MR. WOLKOFF:

7 Q. Have you had occasion to do any work or analysis on your
8 own, sir, of where the water column DDT comes from?

9 A. Yes. I extensively studied the soil sampling that had
10 been done throughout California by the Department of
11 Agriculture to see whether there was DDT in the soil samples.

12 And there were 99 samples taken in 1985 and every one
13 of them had DDT in it. Some of them were quite high DDT, like
14 in 1985 in Ventura County, it was 2.4 parts per million of DDT
15 in the soil, in the agricultural soil of Ventura county.

16 Now I was aware, because I was interested in property
17 in Ventura Marina, that there was a very substantial flood in
18 Ventura in 1969, sufficiently large that it carried between 60
19 and 80 million tons of sediment, agricultural soil. It filled
20 the Ventura marina. It was one of the concerns that I had; if
21 I bought property in the Marina, didn't want to find my marina
22 being filled up with sediment again.

23 So I was very aware of this very large sediment
24 inflow from the Santa Clara River in 1969.
25 If there were 2.4 parts per million of DDT in the

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1 soil in 1985, it was certainly more than that in 1969, when DDT
2 was still being used.

3 So it's a very simple calculation to multiply 60
4 million tons of soil by 2.4 parts per million and find 120 tons
5 of DDT washed out in the Santa Clara River in 1969.

6 And I did that on my own without any assistance from
7 Dr. Inman.

8 MR. KUSHNER: Your Honor, may I inject a couple of
9 questions here?

10 THE COURT: All right.

11 VOIR DIRE EXAMINATION

12 BY MR. KUSHNER:

13 Q. Dr. List, where is that analysis in your testimony?

14 A. In my head.

15 Q. It's not in your testimony, is it?

16 A. I believe it may be.

17 Q. Well, paragraphs 44 and 45 of your testimony cite to one
18 authority for river runoff and that's the work of Inman, which
19 was struck by this court.

20 Don't you agree, sir?

21 A. I would have to look at any testimony to see it again.

22 Q. Feel free to do so, sir.

23 MR. WOLKOFF: Your Honor, as a point of
24 clarification, Dr. Inman's work was not struck. One aspect of
25 his work was struck; that is, his reliance upon a model.

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1 THE COURT: You can't report that the expertise is
2 somebody else's.

3 MS. HURLEY: Your Honor, I don't believe Mr. Wolkoff
4 is correct. Your order specifically states that Dr. Inman is
5 not allowed to testify.

6 THE COURT: Yes.

7 MR. WOLKOFF: I don't believe that is correct, Your
8 Honor. I believe that it is to the extent that he relied upon
9 Dr. Spaulding's work.

10 MR. KUSHNER: Your Honor, at this time we would move
11 to strike paragraphs 44 and 45 of Dr. List's testimony, which
12 refers specifically to the work of Dr. Inman.

13 THE COURT: That motion is granted.

14 DIRECT EXAMINATION, RESUMED

15 BY MR. WOLKOFF:

16 Q. I want to go back, Dr. List, to this lead 210 paper that
17 you were discussing and how that relates to this DDT being
18 scavenged out of the water column.

19 Can you describe the relationship to the court,
20 please.

21 A. Well, the only source of lead 210 is the radioactive decay
22 of radon, which produces lead 210 into the water column. And
23 it tends to attach itself to particles and rain down on the
24 seafloor.

25 It's long been recognized that there was an anomalous

1 concentration of lead 210 on the Palos Verdes Shelf, where
2 there was a substantially elevated concentration and the rather
3 peculiar situation where lead 210, which is a radioactive --

4 decays radioactively, had higher concentration deeper in the
5 sediment than it did on the surface.

6 And until we published this paper, there was no
7 explanation for this -- prior explanation for this.

8 Q. And how does that relate to where the DDT in the surface
9 sediments of the Palos Verdes Shelf comes from?

10 MR. KUSHNER: Your Honor -- well --

11 THE WITNESS: If there is DDE in the water, that is
12 the way these ocean outfalls work, is that they mix with 200
13 times as much water as what comes out of the outfall, so what
14 they tend to do is to concentrate whatever is in the water,
15 catch it and drop it in the sediments.

16 So you get 200 times as much presence as what you
17 would otherwise get from the presence of the outfall because of
18 this high mixing capability of the outfall to suck in very
19 large quantities of sea water and extract from the sea water
20 those materials which want to tie to carbon particles.

21 So lead 210 is one of those. It's an indicator
22 particle which is very easy to track because it's radioactive.

23 MR. KUSHNER: Your Honor, I think we are going a
24 little bit far afield again. I think that we are supposed to
25 be restricting testimony at this point in the proceeding to

1 questions about mass.

2 THE COURT: The objection is sustained.

3 MR. WOLKOFF: I was directing myself, Your Honor, to
4 where the DDT comes from. If the questions are limited to
5 mass, I think that I have asked all of my questions of Dr. List
6 on that topic at this point, Your Honor.

7 Should I save offering his testimony and exhibits
8 until -- I gather that he may be recalled to testify on the
9 other topics in his report.

10 MR. KUSHNER: Plaintiffs have no objection to
11 recalling Dr. List.

12 THE COURT: Yes.

13 Cross-examination.

14 CROSS-EXAMINATION

15 BY MR. KUSHNER:

16 Q. Dr. List, I just have a few questions for you.

17 Let me -- just give me one moment, Your Honor.

18 Dr. List, I believe in your testimony you refer
19 specifically to comparing 1972 data that was developed by

20 McDermott and Young or Young and McDermott to the 1992 USGS
21 data.
22 Is that a fair statement, sir?
23 A. That was in the computation of the mass of DDT that was
24 spreading.
25 Q. Restricted to the mass, sir, you would agree with that?

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1 A. Yes.
2 Q. Now, isn't it true, Dr. List, that you had actually
3 information in your possession at the time that you wrote the
4 report to the court concerning the mass of DDT and DDE in the
5 ocean sediment for the years 1991, 1993 and 1995?
6 A. I'm not sure about 1993 and '95. I may have done those
7 calculations. I don't really recall whether I did those
8 calculations or not.
9 The difficulty with some of that 1993 and '95 data
10 was --
11 Q. The answer to your question is "yes" or "no," sir.
12 A. Would you replace the question.
13 Q. The question is: At the time that you wrote --

14 THE COURT: No, Mr. Kushner --
15 MR. KUSHNER: Excuse me?
16 THE COURT: -- don't.
17 Read the question to the witness.
18 (Record read.)
19 THE WITNESS: I'm not sure about '93 and '95. I'm
20 really not sure.
21 BY MR. KUSHNER:
22 Q. You had '91?
23 A. I certainly had '91 -- '91-92.
24 Q. Who is Wen-Li Chiang?
25 A. Excuse me?

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1 Q. Who is Wen-Li Chiang?
2 A. Wen-Li Chiang is the man who works under my direction.
3 Q. You supervise his work?
4 A. Yes.
5 Q. And he worked on this project, did he not?
6 A. Yes.

7 Q. And he was evaluating mass numbers for you, was he not?

8 A. Yes, he was doing that.

9 Q. And Wen-Li Chiang, prior to the date that you wrote your
10 testimony and prior to the date you testified, had developed
11 those mass numbers, did he not?

12 A. He may have. I can't attest to that. I can't swear
13 under --

14 Q. Well, Dr. List -- excuse me, sir. I didn't mean to
15 interrupt.

16 Now, Dr. List, you prepared and produced to the
17 plaintiffs in this case work files, did you not?

18 A. I produced everything that we had, boxes and boxes of it.
19 If it was in there, it was in there. There are 6,182
20 documents, and I can't say that I recall every single one of
21 them.

22 Q. Did you testify in your deposition that one data point is
23 worth a thousand theories?

24 A. Yes, that's correct.

25 Q. It's an old adage that had been told to you by a professor

1 of yours?

2 A. That's correct.

3 Q. Dr. List, let me direct your attention, if I could, to a

4 document that is Bates numbered XJL 0111647.

5 Your Honor, may I ask -- it's not in a tabbed binder,

6 Your Honor. It's for cross.

7 I would ask you to take a moment to review that

8 document, Dr. List, and let me know when you have had an

9 opportunity to complete your review.

10 (Pause.)

11 BY MR. KUSHNER:

12 Q. I'm really only going to be directing you to one sentence,

13 but feel free to read the entire document.

14 (Pause.)

15 BY MR. KUSHNER:

16 Q. Dr. List, I would like you to pay particular attention to

17 the last sentence of the memo.

18 (Pause.)

19 BY MR. KUSHNER:

20 Q. Have you read that sentence, sir?

21 A. Yes, I have read this sentence.

22 Q. Now, this is a memorandum from Wen-Li Chiang to the file;

23 is that correct?

24 A. That's correct.

25 Q. And bears Bates reference number XJL and that refers to

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1 you, the "L," I believe; is that correct?

2 A. I don't know what it refers to.

3 Q. You haven't seen the Bates numbers on these documents?

4 A. No.

5 Q. Have you seen this document before, sir?

6 A. I'm sure that I have.

7 Q. And what's stated on the last page of the document, the

8 very last sentence, is quote: "The total mass of p,p'-DDE in a

9 specified area of 37.5 kilometers squared is found to be a high

10 value of 147.3 metric tons"; isn't that correct?

11 A. That's what it reads here.

12 Q. That would be about 30 metric tons higher than the

13 analysis that Dr. Lee generated and produced during his

14 deposition in this matter; isn't that correct?

15 A. I believe that Dr. Lee said something like 120 tons.

16 Q. I think perhaps you're correct, sir.

17 Now, this doesn't appear anywhere in your testimony,

18 does it?

19 A. No, it doesn't.

20 Q. Now, let me direct your attention, if I could, sir, to a

21 document that is dated July 9, 1998.

22 And, Your Honor, we have again asked that we be able

23 to approach the clerk and present the documents.

24 (Pause.)

25 BY MR. KUSHNER:

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1 Q. And once again, I would like to direct you, if I could,

2 sir, to the -- strike that.

3 This is a memo from Wen-Li Chiang to file regarding

4 the mass distribution of 1993 p,p'-DDE; isn't that correct,

5 sir?

6 A. Excuse me. I was still reading this other one.

7 Q. I'm sorry. If we could turn our attention to the next

8 document. Thank you, sir.

9 And let me direct you to the third page of the

10 document.

11 A. Can I just read through it? I haven't seen these for two
12 years.

13 Q. Dr. List, it's a very simple question to you. The
14 question is whether or not you had in your hands estimates of
15 mass that you did not present to this court that had some
16 bearing on your testimony as to what the loss was on the Palos
17 Verdes Shelf?

18 MR. WOLKOFF: Objection, Your Honor.

19 THE COURT: The objection is overruled.

20 BY MR. KUSHNER:

21 Q. Now, that last sentence says, does it not, sir: "The
22 total mass of p,p'-DDE in a specified area of 17.9 kilometers
23 square is found to be a high value of 133 metric tons."

24 That's a precise quote, is it not?

25 A. That's what it says here. But I would really like an

1 opportunity to read these.

2 Q. Dr. List, this isn't a deposition. These are documents
3 that you produced and I have some questions I would like to ask

4 you.

5 A. But I can't respond to the questions unless I have some
6 familiarity with the document.

7 Q. Dr. List, did you generate that mass estimate prior to the
8 time that you prepared your testimony -- written testimony in
9 this case and before you testified in your deposition?

10 MR. WOLKOFF: Your Honor, objection. There's been no
11 foundation that this witness prepared this memo or the prior
12 memo.

13 THE COURT: He had it in his possession. The
14 objection is overruled.

15 BY MR. KUSHNER:

16 Q. My question was inartfully stated. The question was
17 really, Dr. List, this is a memo in your possession at that
18 time, was it not?

19 A. Mr. Kushner, it says "to the file" and I don't know
20 that -- there's no initials that I have ever seen this before,
21 so I am not really certain that I have seen this one before.

22 Q. You commissioned Wen-Li Chiang, an employee of Flow
23 Sciences, your corporation, to evaluate mass information
24 provided to you by plaintiffs, did you not?

25 A. Yes, I did that.

1 Q. And that's what this is, is it not?

2 A. Well, that's what it appears to be, yes.

3 Q. And this is not in your expert report, is it not?

4 A. It is not in my expert report because I haven't seen it
5 for two years.

6 Q. And you didn't testify to this in your deposition, did you
7 not?

8 A. No, I didn't testify to it in my deposition.

9 Q. And you didn't provide it in your written testimony before
10 this court, did you not?

11 A. No, I didn't. I provided it as part of the deposition, as
12 part of the discovery materials because I just emptied the
13 files.

14 Q. Now, let me ask you a question, Dr. List. The McDermott
15 and Young analysis concerns, at least in part, stations
16 occupied by LACSD for purposes of sampling the sediments on the
17 Palos Verdes margin, did they not?

18 A. Excuse me?

19 Q. Let me see if I can state my question a bit clearer.

20 When McDermott and Young went out and took samples

21 upon which you based your estimates of the mass in 1972, they
22 attempted, or the data they used attempted or was obtained from
23 sampling stations that LACSD has used since that time?
24 A. I gather -- yes. And I believe they are the same sample
25 stations that are used in this memorandum here.

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1 Q. And in fact, you know, do you not, that when Dr. Lee and
2 his colleagues went out on the Palos Verdes Shelf to take
3 samples of sediments, they didn't occupy those same stations,
4 did they?

5 A. No. They had some trouble navigating.

6 Q. Right. But this data is from the same stations, at least
7 in part, that McDermott and Young used, is it not?

8 A. It's not the same stations. It's some of the same
9 stations.

10 Q. And that's exactly what I had said. Some of the same
11 stations; isn't that correct, Dr. List?

12 A. It's some of the same stations.

13 Q. But you didn't use this data, did you?

14 A. No.

15 Q. It's not anywhere in your testimony?

16 A. No.

17 Q. Now, let me direct your attention, if I could, Dr. List,

18 to other memos that were generated by Wen-Li Chiang.

19 Are you familiar with a memo where you

20 commissioned -- are you familiar with a memo dated April 3rd,

21 1997 from Wen-Li Chiang regarding surface mass of p,p'-DDE in

22 1981, '89 and '92?

23 A. No, I can't recall that. No.

24 Q. Let me see if I have a copy that I can provide you, sir.

25 Now, Dr. List, this memo predates your testimony,

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1 does it not? The direct testimony you have provided here.

2 A. April 3rd, 1997, yes.

3 Q. By several years. It also predates the deposition

4 testimony you provided to plaintiffs in this case; isn't that

5 true?

6 A. Yes.

7 Q. And it also predates, does it not, the expert report you

8 produced to plaintiffs?

9 A. Yes.

10 Q. Now, is this information in either of those three? Is
11 this information in your expert report, sir?

12 A. No, it's not.

13 Q. It's not in your direct testimony either?

14 A. No.

15 Q. What this memo is is an evaluation of the surface mass of
16 p,p'-DDE in three separate years, '81, '89 and '92, is it not?

17 A. It's not just the surface mass. It's actually a -- an
18 addition or distribution of mass with depth.

19 In '81, '89 and '92, it shows that if you take 4
20 centimeters, 8 centimeters, 12 centimeters, 16 centimeters or
21 20 centimeters, so it's actually an assessment of the mass of
22 the material as you go with depth into the sediments.

23 Q. Right. And this was --

24 A. And it's for a rather restricted area of the Palos Verdes
25 Shelf.

1 Q. And in that rather restricted area of the Palos Verdes
2 Shelf, Wen-Li Chiang determined, applying 1992 USGS data, that
3 if there are the 20 centimeters or less and the sediments are
4 rising, there are at least 10.4 metric tons of DDT; isn't that
5 correct -- of DDE? Excuse me.

6 Look at the page 2, sir, the top table. You go to
7 the first row, there is the values at centimeters 4, 8, 12, 16,
8 20. You read over to 1992, you get 10.4 metric tons, do you
9 not?

10 A. Mr. Kushner, could I just take a minute to read this? I'm
11 having some difficulty in seeing what the difference between --
12 will you, excuse me.

13 Q. Take your time, sir.

14 A. It's three years and I don't recall seeing this.

15 (Pause.)

16 THE WITNESS: Oh, I see. There are two different
17 methods that he used to do that calculation.

18 BY MR. KUSHNER:

19 Q. You are trying to determine the difference between the two
20 tables that appear on the --

21 A. That's right.

22 Q. One is 10.4 metric tons; the other is 10?

23 A. Right.

24 Q. And application of the 1989 data to the formula as applied
25 here by Wen-Li Chiang indicates that at 20 centimeters,

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1 sediment horizon or shallower, there's 24.7 or 24 metric tons;
2 isn't that correct?

3 A. Yes. What this indicates to me is that this sediment was
4 getting buried.

5 Q. Well, Dr. List, let me ask you this question: While it
6 may indicate to you that the sediment was being buried, it also
7 indicates that there are 24.7 metric tons at the 20 centimeter
8 or shallower sediment horizon; isn't that correct?

9 A. I'm not sure what --

10 Q. 1989. Dr. List --

11 A. Let me explain what this -- my interpretation of this data
12 is, Mr. Kushner.

13 Q. You can do that on your redirect. This is
14 cross-examination.

15 MR. WOLKOFF: Objection, Your Honor.

16 THE COURT: Objection sustained.

17 BY MR. KUSHNER:

18 Q. Please go ahead, sir.

19 A. What these data say to me is that if you are looking at
20 the top centimeters of sediment, the mass of material in the
21 top 20 centimeters -- remember that the top centimeters, 20
22 centimeters is continually getting changed.

23 So that over a period of 10 years, we estimate that
24 something like 15 centimeters, so that what was in the top 20
25 centimeters in 1981 becomes in the bottom 40 centimeters in

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1 1992, so --

2 Q. The one data set or the two data sets you have not
3 evaluated here, though.

4 A. That's the point. I'm evaluating several data sets. And
5 the whole point of these data is to show that the mass of
6 material, which is in the top 10 centimeters of DDT -- DDE,
7 which is in the top 10 centimeters, is getting grossly reduced
8 as time goes on.

9 In 1981, it was seven metric tons. In 1989, it was
10 two metric tons. In 1992, it was 1.8 metric tons, which is

11 indicative of the fact that clean sediment is falling onto the
12 surface and pushing the four centimeter layer deeper.

13 What was the four centimeter layer in 1981 becomes
14 the eight centimeter layer in 1989 and becomes the 16
15 centimeter layer in 1992.

16 Q. And how does it look for 1991 and 1993, the very data you
17 excluded from this analysis and which you had available to you
18 at this time?

19 MR. WOLKOFF: Objection to the phrase "excluded from
20 this analysis."

21 THE COURT: The objection is overruled.

22 BY MR. KUSHNER:

23 Q. What amount of mass is shallower than 20 centimeters for
24 the years 1991 and 1993, applying the mass data that Wen-Li
25 Chiang, your employee, generated for you? Where is that?

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1 A. '91 and '93?

2 Q. Yes, sir.

3 A. It's not here because --

4 Q. It's not --

5 A. Let me explain, Mr. Kushner, why it's not here is
6 because -- he explains that very carefully on the bottom
7 sentence of the first page: The common area shared by 1981 and
8 1989 and 1992 stations. There was no common area to which we
9 could apply this in '93 and '95.

10 This is what I said to you before. The '93 and '95
11 data had some difficulties in that the number of samples did
12 not necessarily overlap. And when you are doing comparison
13 from one year to the next, you need an overlapping area.

14 And what we attempted to do here, I now recall, was
15 to find an overlapping area from which we could make a
16 confirmation. It's not that he didn't do it for '93 or '95;
17 it's that there wasn't an overlapping area for which to do this
18 particular analysis, for the cores.

19 Q. You did not present this analysis or the analysis in the
20 other memos to the plaintiffs or to the court; isn't that true?

21 MR. WOLKOFF: Objection, Your Honor. He testified it
22 was produced.

23 THE COURT: The objection is overruled.

24 THE WITNESS: As a matter of fact, Mr. Kushner, I was
25 looking for this data last night because one of your attorneys

1 asked me, "Have you ever done this kind of analysis or did the
2 GS do it?"

3 And I said, "I think that we did it." And we looked
4 for the GS to have done it and I knew that I had seen it
5 somewhere before and you found it for me.

6 Thank you.

7 BY MR. KUSHNER:

8 Q. You are quite welcome, Dr. List.

9 Dr. List, have you had an opportunity to evaluate the
10 amount of DDT present either in mass or concentration at the
11 other outfalls of the Southern California Bight?

12 A. I reviewed some of the work that was done by other
13 people. I came to the conclusion that the Palos Verdes --

14 MR. WOLKOFF: Objection, Your Honor. Well --

15 MR. KUSHNER: This goes directly to the scavenging
16 that Mr. Wolkoff presented through this witness just a few
17 moments ago.

18 MR. WOLKOFF: But I was prevented from going into
19 that, Your Honor, into that line by virtue of the claim by the
20 government that all we are talking about is the mass at the

21 Palos Verdes Shelf.

22 Now he is purporting to go on to other outfalls in
23 other areas.

24 THE COURT: The objection is overruled, counsel.

25 Read him the question.

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1 (Record read.)

2 THE WITNESS: Yes, I've looked at other outfalls in
3 the Southern California Bight and there is -- none of them are
4 appropriate to compare with Palos Verdes for the simple reason
5 that Palos Verdes has not had secondary treatment.

6 THE COURT: The question was not to compare. What
7 are they?

8 MR. KUSHNER: Thank you, Your Honor.

9 THE WITNESS: Excuse me?

10 BY MR. KUSHNER:

11 Q. There's a question. The question is --

12 THE COURT: What are the masses in those?

13 THE WITNESS: I don't know what the masses are. I

14 don't know what the masses -- I haven't done an assessment of

15 the mass.

16 I've looked at the concentrations and the

17 concentrations have been lower than the surface concentrations

18 on the Palos Verdes Shelf.

19 BY MS. KUSHNER:

20 Q. So you don't have an opinion as to whether or not the same

21 mass and concentration of DDT that appears on the Palos Verdes

22 Shelf also appears at the other ocean outfalls in the Southern

23 California Bight?

24 A. Yes, I do have an opinion. The concentration of DDT is

25 lower at the Southern California outfalls.

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1 Q. And the masses as well, is it not?

2 A. I don't know. I have not done an assessment of the mass.

3 Q. But you offered an opinion about scavenging through the

4 Southern California Bight, did you not, in your testimony?

5 A. No. I offered an opinion about the Palos Verdes outfall.

6 The -- just purely and simply, the operation of the Palos

7 Verdes outfall, because of the high dilution capability of it,

8 has a capability to do the scavenging.

9 Q. Do you know if San Diego --

10 THE COURT: Just a moment. Let me clear that for
11 myself.

12 You gave me three: Outfall, fine sediment and
13 scavenged out of the water column.

14 THE WITNESS: That's correct, Your Honor.

15 THE COURT: Where does the scavenged out of the water
16 column come from?

17 THE WITNESS: I was going to explain that, Your
18 Honor, and I was prevented from doing so.

19 MR. KUSHNER: Your Honor, we are happy to pick that
20 up when Dr. List is recalled.

21 THE COURT: All right.

22 MR. KUSHNER: May I have just a moment to check my
23 notes, Your Honor?

24 THE COURT: All right.

25 MR. KUSHNER: We have no further questions at this

1 time of Dr. List.

2 THE COURT: Redirect?

3 MR. KUSHNER: Your Honor, we would -- just to make
4 sure the record is clear, we are going to move to strike the
5 testimony of Dr. List as it appears in paragraphs 44 and 45 as
6 it relates to Dr. Inman and also with respect to the opinions
7 on biodegradation.

8 I do not have those paragraphs right now. We are
9 happy to provide that to Your Honor later.

10 THE COURT: Redirect?

11 REDIRECT EXAMINATION

12 BY MR. WOLKOFF:

13 Q. You were asked the question by the court, Dr. List, about
14 where does the DDT that is scavenged out of the water column
15 come from.

16 Do you have an opinion with respect to that, sir?

17 A. Yes, I do.

18 Q. And what is that opinion?

19 A. I believe it's the DDT that is advected through the
20 Southern California Bight that Dr. Young was talking about
21 yesterday.

22 Q. You began to say --

23 MR. KUSHNER: Objection, Your Honor. We just did
24 this. Didn't we just agree that we were going to put this off

25 to the last part of the case or the next part?

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1 THE COURT: Yes. My question didn't get answered.

2 BY MR. WOLKOFF:

3 Q. You began to say in response to Mr. Kushner's questions
4 that you didn't believe that the other outfalls were comparable
5 to the White's Point outfall.

6 Do you recollect that, sir?

7 A. That's correct.

8 Q. And what's the basis for that belief?

9 A. It's two things. One is the extremely high volume out of
10 the Palos Verdes outfall. 380, 400 million gallons a day.

11 That's number one.

12 Number two is there's a much higher particulate load
13 than the other outfalls.

14 And number three, it's in an environment where there
15 is DDT in the water column.

16 Q. Now, with respect to Wen-Li Chiang's couple of reports
17 that you were shown that looked at data from 1993, sir, you

18 relied upon data from the USGS in arriving at your total amount
19 of mass of DDT out at the Palos Verdes Shelf; is that correct?

20 A. Yes, I did.

21 Q. And the number that you testified to the court -- were you
22 here when Dr. Homa Lee testified about his calculations from
23 that data?

24 A. Yes.

25 Q. How does your number compare to his?

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1 A. We came almost exactly the same as Dr. Lee's number. 66.5
2 or 66.8 or something like that.

3 Q. And Wen-Li Chiang, is he a doctor?

4 A. Yes.

5 Q. Okay. Dr. Wen-Li Chiang, he relied on different data than
6 you and Dr. Homa Lee for his analysis; is that right?

7 A. No. He took the data files that the United States
8 Geological Survey had provided and we did the calculation. And
9 the actual method of computing the mass was slightly different
10 because he used several different interpolation techniques, but
11 it found that the mass was relatively invariant to the

12 interpolation technique used, which, I believe, the USGS also
13 found.

14 Q. Was there any issue or problem with respect to the LACSD
15 data interpolation, sir?

16 A. Yes, there was a substantial problem with the US -- LACSD
17 data in that there is a big hole in the middle of the data and
18 so you have to interpolate from -- between 3C and 6C, there's a
19 big hole located about 4C, which means that there is no data to
20 provide.

21 And that's the region where the concentrations are
22 changing rather rapidly so it becomes very dependent upon the
23 interpolation technique used when you use the LACSD data.

24 And that, I might add, was the reason why this
25 assessment in this very last memorandum that Mr. Kushner

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1 introduced was restricted to a very small area, like 15 square
2 kilometers, because it was the only place we could find an
3 overlap and sufficient data to do this comparison.

4 Q. So Dr. Chiang, he relied -- his work that he was doing was

5 using the LACSD data; is that correct?

6 A. That's correct.

7 Q. So he had to make these interpolations because of a hole
8 in the LACSD data?

9 A. That's correct.

10 Q. What is it he had to do?

11 A. Well, as you move away from the outfall, from stations 7C
12 to 6C to 5C to 4C to 3C to 2C, the concentration of DDT in the
13 sediments drops rapidly. And it's dropped very rapidly between
14 5C and 3C.

15 Unfortunately, the USGS -- the LACSD very seldom ever
16 took samples at 4C and 4C happens to be the region where --
17 it's critical to the computation of the amount of mass.

18 So the interpolation routine has to interpolate what
19 data is available at 4C and the interpolation -- the answer
20 that you get from the mass calculation turns out to be very
21 dependent upon what interpolation technique that you use
22 between stations 5C and 3C.

23 The reason you have to do this interpolation is
24 because there is no data at 4C to do this. Unfortunately, the
25 GS actually took some data at 4C, so it's the one data set

1 where there was data available at 4C.

2 Q. Is that why you relied on the USGS data, the same data
3 that Dr. Lee relied upon, as opposed to Dr. Wen-Li Chiang's
4 analysis?

5 A. That's why we relied on the 1992 data, because we felt it
6 was most reliable and most comprehensive data set.

7 Q. But you did produce Wen-Li Chiang's analysis to the
8 government; correct?

9 A. We produced everything.

10 Q. Now, directing your attention to Wen-Li Chiang's memo of
11 April 3, 1997 that Mr. Kushner showed you, XJL 0111580, and in
12 particular page 2 --

13 A. Yes.

14 Q. -- this memo was done in 1997; correct?

15 A. That's correct.

16 Q. And he was asking you questions about it purports to show
17 10 tons in the top 20 centimeters; do you remember that?

18 A. I remember that question.

19 Q. Again, is this LACSD data, sir?

20 A. This is -- the 1992 data is the Geological Survey data.

21 Q. Did you become aware at any point in time of an issue with

22 respect to the LACSD's gravity core?

23 A. Yes. The LACSD gravity core appears to misstate -- in

24 fact, it was brought to our attention by the Geological

25 Survey. In part of discovery, there was a memorandum from a

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1 Dr. Drake saying, Look, I don't know what the problem is here.

2 Our box core and the LACSD data don't match up, and I'm not

3 about to say that our box core is bad. And it's creating real

4 problems for us because I can't match up these profiles. There

5 appears to be 10 centimeters of sediment missing and I'm not

6 about to say that our GS core is missing 10 centimeters of

7 sediment.

8 Q. What does it mean to miss 10 centimeters of sediment in

9 connection with the LACSD thing?

10 A. It means that the concentrations are much closer that you

11 measure -- by the LACSD are much closer to the surface than

12 what they really are.

13 Q. Or another way of looking at is that they're really 10

14 centimeters --

15 THE COURT: Don't lead the witness, counsel. He is
16 an expert.

17 MR. WOLKOFF: I apologize, Your Honor.

18 BY MR. WOLKOFF:

19 Q. So with respect to the amount of DDT in the top 20
20 centimeters according to the LACSD data, what significance, if
21 any, does this missing the top 10 centimeters have?

22 A. Well, it means it would be significantly less, the
23 appraisal of the top 10 centimeters because what you are doing
24 is you're measuring from deeper within the sediments, where the
25 concentrations are higher.

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1 So as far as these numbers are concerned for 1981 and
2 1989, where it refers to the surface layer of four centimeters,
3 that means that -- we don't know what -- the surface layer
4 within the core that the LACSD took, we don't really know what
5 was in the material that got not collected by the core.

6 Q. And in connection with this table that Mr. Kushner showed
7 you of 1989, 24.7 tons in the top 20 centimeters -- do you see
8 that, sir?

9 A. I see that, yes.

10 Q. What significance, if any, would this 10 centimeter loss
11 have with respect to that?

12 MR. KUSHNER: Objection, Your Honor. It's not
13 established that there has been any loss.

14 THE COURT: The objection is sustained.

15 BY MR. WOLKOFF:

16 Q. Who is Dr. Drake, sir?

17 A. Dr. Drake was a co-principal investigator of the
18 Geological Survey study with Dr. Lee.

19 Q. Now, assuming that the gravity core lost the top 10
20 centimeters, what significance would that have, if any, on the
21 24.7 metric tons in the top 20 centimeters that's shown in this
22 memo?

23 MR. KUSHNER: Objection, Your Honor. We are
24 rapidly --

25 THE COURT: The objection is sustained.

1 MR. WOLKOFF: I have no further questions at this

2 time, Your Honor.

3 MR. KUSHNER: Nothing further, Your Honor.

4 THE COURT: I have a few questions.

5 You said that the 1992 information, I think you just
6 told me, was more accurate than the 1991 information?

7 THE WITNESS: I believe that to be true, Your Honor.

8 THE COURT: And you knew of the 1991 information when
9 you made that determination?

10 THE WITNESS: I knew of the existence of data from
11 the Los Angeles County Sanitation Districts and I believe that
12 the Geological Survey data is more reliable than the
13 Los Angeles County Sanitation Districts' data.

14 THE COURT: You knew about the 1991 data when you
15 made the decision that the 1992 data was more accurate?

16 THE WITNESS: I believe that to be true, yes.

17 THE COURT: Thank you. All right. You may step
18 down.

19 Call your next witness on the question of masses.

20 MR. WOLKOFF: Your Honor, Dr. List is our only
21 witness with respect to the issue of mass of DDT out on the
22 Palos Verdes Shelf.

23 We do have other witnesses on such issues as
24 biodegradation and the fate of the DDT at the Palos Verdes

25 Shelf, but I understand that's beyond the scope.

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1 THE COURT: I don't want to go to that now.

2 MR. KUSHNER: Excuse me, Your Honor.

3 THE COURT: We are going to continue with your case.

4 MR. KUSHNER: We would call Brian --

5 THE COURT: That issue is now -- is now submitted; is
6 that right? The issue of mass and source?

7 MR. SAURENMAN: I have one question, Your Honor.

8 Before the break, I tried to clarify that they had
9 cut to the issue of mass and source with respect to the onshore
10 areas as well -- the neighborhood around the plant, the
11 stormwater pathway --

12 THE COURT: Yes.

13 MR. SAURENMAN: -- and they had the complete of proof
14 on that issue. And therefore we move for entry --

15 THE COURT: No, but that issue is now submitted.

16 MR. SAURENMAN: Thank you, Your Honor.

17 MR. RAUSHENBUSH: Your Honor, Richard Raushenbush on
18 behalf of Montrose Chemical.

19 It is my understanding from what was just said in
20 response to Mr. Wolkoff's question and earlier responses that
21 we were talking about mass and source on the PV Shelf.

22 We indeed have considerable questions as to the
23 source and mass on the questions of the neighborhood liability
24 and on the question of the stormwater pathway.

25 And I'm prepared to address those questions if you'd

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1 like to.

2 THE COURT: Speak to it.

3 MR. RAUSHENBUSH: Give me one second to collect my
4 material, sir.

5 MR. KUSHNER: Your Honor, might we take a five-minute
6 recess so we can organize our documents?

7 THE CLERK: All rise.

8 (Recess taken.)

9 THE COURT: You may proceed.

10 MR. RAUSHENBUSH: Good afternoon, Your Honor.

11 Richard Raushenbush for Montrose.

12 Before we begin with the question of evidence, Your
13 Honor, first I need to know whether or not the Plaintiffs'
14 effort to revisit the question of neighborhood liability is
15 going to be addressed here.

16 As the court may recall, we, several weeks ago, moved
17 for summary judgment on 204th Street, which is essentially the
18 first street of the neighborhood. Plaintiffs cross-moved on
19 the ATSCR costs, claiming that we were responsible for at least
20 the rest of the neighborhood and therefore should pay those.

21 In denying their cross-motion, the court issued an
22 order on September 19, 2000 that adopted defendant's statement
23 of uncontroverted facts and conclusions of law, which found:

24 "Plaintiffs have failed to meet their burden to
25 prove that any defendant is a liable party under

1 the Comprehensive Environmental Response
2 Compensation Liability Act of 1980 for the
3 neighborhood or is responsible for any surplus
4 hazardous substances found there, including but
5 not limited to DDT."

6 We believe that's depositive of the question of
7 neighborhood liability.

8 THE COURT: Well --

9 MR. O'ROURKE: Your Honor, this may sound familiar
10 because Mr. Lytz made the exact same argument two weeks ago in
11 our last hearing in front of you.

12 I explained that we had already won summary judgment
13 before that in April covering these very areas. You said it
14 was a question for trial.

15 If you prefer, I would be happy to supply a brief
16 tomorrow explaining why we won it the first time, but we put up
17 our proof, proving it again a second time.

18 MR. RAUSHENBUSH: Your Honor, if I could respond to
19 that. First off, having read the transcript, Your Honor said
20 you would deal with it at trial. You didn't say it was an
21 issue for trial. If the court --

22 If plaintiffs had wanted clarification of that order,
23 they were free to seek clarification of it within the five-day
24 limit of Local Rule 14.6, but did not. They have never sought
25 reconsideration of the order.

1 And what they have done and did before in their
2 cross-motion was point back to the original summary judgment
3 order, which had only one statement that was even potentially
4 relevant. It said DDT was conveyed off the Stauffer property
5 in surface water runoff, which says nothing about whether it
6 went to the neighborhood.

7 As you heard Mr. Simanonok testify, the Kenwood drain
8 is an underground concrete substructure, which has nothing to
9 do with the area that has been denied as the neighborhood.

10 So it's clear -- I believe that it is clear that the
11 original summary judgment order never addressed this question.
12 And there is an order of the court indicating that we're not
13 liable for it.

14 MR. O'ROURKE: Your Honor, regarding -- we have
15 already addressed this issue in our trial brief when we
16 submitted our memorandum --

17 THE COURT: Yes.

18 MR. O'ROURKE: -- of points. We put forth our
19 position that we had already won it. In response to the
20 suggestion that we should have moved for clarification, there
21 was a motion cutoff imposed by Your Honor so we couldn't move

22 for clarification.

23 And in face of the evidence yesterday, it was not

24 limited to Mr. Simanonok --

25 THE COURT: I think the summary judgment certainly,

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1 because there was nothing -- I did make a mistake if I did

2 order that; and it is, I think, for trial and now is the time.

3 MR. RAUSHENBUSH: Okay. Your Honor approved factual

4 findings. Do we need to re-present all the evidence that was

5 presented at the summary judgment stage or are the factual

6 findings still valid?

7 THE COURT: Summary judgment, if it has factual

8 findings --

9 MR. RAUSHENBUSH: There were factual findings made,

10 Your Honor.

11 Okay. Then, Your Honor, I would like to move for

12 judgment as a matter of law on the plaintiffs' claims that

13 there were any releases of Montrose DDT into the neighborhood.

14 The only evidence that has been submitted is the testimony of

15 Mr. Steve Simanonok, who testified only as to his measurements

16 of DDT in stormwater at the Normandie Avenue ditch, one spot in
17 the Kenwood drain, which is an underground structure, and then
18 one spot in the Torrance lateral, which is outside the
19 neighborhood.

20 Therefore, there is no evidence of any --

21 THE COURT: My recollection of his testimony is that
22 it went down the street before it got to the drain.

23 MR. RAUSHENBUSH: Your Honor, let me show you --

24 THE COURT: Position 1 and 5. It went over the curb
25 at Position 1 and then went to 5.

1 MR. RAUSHENBUSH: Your Honor, when I am talking about
2 the neighborhood, the neighborhood was defined in the motion
3 papers and the definition that I believe people are using here
4 is the geographic area bounded by Del Amo Boulevard on the
5 north, Torrance Boulevard on the south, Vermont Avenue on the
6 east and Western Avenue on the west. And I have unfortunately
7 now --

8 Your Honor, I can bring this up if you would like.

9 But essentially, Montrose is up here. The Normandie Avenue
10 ditch is near it and we had long ago admitted liability for
11 it.

12 The neighborhood is down here, continuing 30 blocks
13 out this way (indicating).

14 MR. O'ROURKE: If I can interject, I have a picture
15 that we can put up here that we can use.

16 MR. RAUSHENBUSH: Okay. That will be fine, too.

17 Your Honor, that will help provide the overview.

18 But the actual area that has been defined as the
19 neighborhood and over which there has been a dispute of
20 liability is on this plate from an EPA document, which I don't
21 think they disagree. It just shows the geographic boundary.

22 So it's not the area immediately adjacent to the
23 Montrose plant. That's an area for which we have not denied
24 liability. It's this area down here, which continues for 30
25 square blocks.

1 And Mr. Simanonok testified that he took a sample up
2 here at the top near Montrose; that you come down the Kenwood

3 drain, which is now buried, a substructure buried below here,
4 and he took one sample in here.

5 And then you're down here towards the Torrance
6 lateral beneath the neighborhood, which I intend to address
7 next.

8 But as far as the neighborhood itself goes, there is
9 no evidence whatsoever of a release to the neighborhood.

10 THE COURT: Do you now wish to submit the matter? Is
11 that what you want to do?

12 The motion is improper. Do you want to submit the
13 matter?

14 MR. RAUSHENBUSH: No, Your Honor.

15 THE COURT: All right. Then put on your evidence.

16 MR. RAUSHENBUSH: Your Honor, I would first like to
17 submit the response of the United States in response to
18 Montrose Chemical Corporation's first set of requests for
19 admissions to the United States.

20 Unfortunately, given that we only learned earlier
21 today that this issue would come up now, it's not in the bench
22 book before you, but I have copies for you here if you like.

23 Your Honor, I would like to direct your attention to
24 page --

25 THE COURT: These are received as exhibits next in

1 order. I'll tell you what that is in a minute.

2 MR. RAUSHENBUSH: I would like to direct your
3 attention to the response to Request Number 25. The request
4 was:

5 "Admit that no hazardous substance moved by
6 surface water from the Montrose plant property
7 to the real property at 1043, 1051 or 1055 204th
8 Street, City of Torrance, County of Los Angeles,
9 California."

10 The response is: "Admitted."

11 MR. O'ROURKE: Your Honor, I object that he's just
12 arguing.

13 THE COURT: That's right, counsel. Please put on the
14 evidence and we'll get to the submission of the matter.

15 MR. RAUSHENBUSH: Your Honor, are you indicating that
16 I can't point to the subject matter of the document? You just
17 wish to move --

18 THE COURT: Put on evidence. The statements of

19 counsel are not evidence. You learned that in the first year
20 of evidence.

21 MR. RAUSHENBUSH: All right. At this point, I would
22 like to move the admission of Exhibit Numbers -- and I believe
23 this has been stipulated to by the United States. These are
24 documents to which Mr. Robert Weaver was to testify as to
25 authenticity and they reflect spraying of insecticides by the

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1 Southeast Mosquito Abatement District into the Torrance lateral
2 and the use of DDT by the Southeast Mosquito Abatement
3 District, as well as the spraying of DDT by the County of
4 Los Angeles.

5 And those documents are Exhibit Numbers 5441, 5940,
6 5941, 5942, 5981 -- I'm sorry. Let me step back. The first
7 one was a different one.

8 5940, 5941, 5942, 5981, 5983, 5984, 6011, 6012,
9 portions of 6013, which are exhibit -- marked in Exhibit 6013
10 are marked as Exhibit 6, Exhibit 12, Exhibit 37, Exhibit 38,
11 Exhibit 39, Exhibit 40, Exhibit 42, and Exhibit 46.

12 Exhibits 6035, 6051, 6061, 6063, 6064, 6065, 6066,

13 6067, 6068, 6070.

14 I would also like to introduce the deposition
15 testimony of two Rule 30(b)(6) deponents of the United States
16 government, Jeffrey Dhont and Michael Montgomery, establishing
17 that DDT was the most widely used pesticide in the United
18 States for essentially the 50s and 60s.

19 And, Your Honor, the local rules indicate that the
20 questions and answers should be read by the opposing counsel,
21 or I can simply identify the page numbers for Your Honor's
22 perusal.

23 THE COURT: Identify the page numbers.

24 MR. RAUSHENBUSH: For Mr. Dhont -- I'm sorry. Let me
25 start with Mr. Montgomery: Page 137, line 16 through page 137,

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1 line 22.

2 For Mr. Dhont, it's page 96, line 1 through line 10.

3 We also have testimony from another EPA employee,
4 Ms. Nancy Woo, regarding the same. I understand that the
5 United States may be willing to stipulate that we don't need to

6 call her to testify to that proposition.

7 MR. O'ROURKE: Yes, we agree, but ask you to
8 designate for the court what you are talking about.

9 And as long as I am up, there may be objections to
10 the portions of the depositions he just indicated that -- if
11 there are objections read in the designated portions to which
12 he cited, then we renew those objections.

13 THE COURT: Yes.

14 MR. O'ROURKE: And with respect to the list of
15 exhibits he gave, we will stipulate they are authenticated and
16 nonhearsay, but we argue that they are irrelevant because they
17 don't prove what he purports they prove.

18 But moreover, because we did prove release to joint
19 and several liability, even if they do prove an additional
20 source, it's irrelevant.

21 MR. RAUSHENBUSH: Does Your Honor want to argue
22 relevance now?

23 THE COURT: Not now.

24 MR. RAUSHENBUSH: As to Ms. Woo, it is on page 54 and
25 I can supply the lines to opposing counsel. Ms. Woo did not

1 have the designated deposition testimony because she is
2 available. I understood the U.S. may be willing to not have
3 her come in to testify to this.

4 MR. O'ROURKE: That's right. We agree. You can use
5 that portion.

6 MR. RAUSHENBUSH: We will designate that portion.

7 We would also like to proffer Exhibit Number 5487,
8 which is an e-mail from Michael Montgomery of the EPA to Keith
9 Takata regarding a resident in the neighborhood applying DDT in
10 his yard. I can provide you with a copy of this now or we can
11 submit it to Your Honor later.

12 Your Honor, we would like to offer that into evidence
13 as well.

14 THE COURT: All right. I have got it down.

15 MR. RAUSHENBUSH: I would also like to offer into
16 evidence Exhibit Number 5067, which is an e-mail from Jeffrey
17 Dhont of the EPA to Tony Blake, an EPA contractor, regarding a
18 resident using DDT in the yard at 20509 Kenwood Avenue. I
19 would --

20 Your Honor, is that accepted into evidence?

21 THE COURT: No, I'm not moving on them now.

22 MR. O'ROURKE: I would like to place the same

23 objections to the last two exhibits about relevance.

24 THE COURT: All right.

25 MR. RAUSHENBUSH: We would also like to offer into

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1 evidence Exhibit Number 5441, which is an e-mail from Jeff
2 Dhont to Ned Black and, again, addresses the DDT being widely
3 used and its persistence and the difficulty in finding it in
4 the neighborhood.

5 MR. O'ROURKE: I object to the characterization of
6 each exhibit. He's not reading the "regarding" line. He's
7 just arguing what he thinks it says.

8 MR. RAUSHENBUSH: Well, Your Honor, they objected to
9 my actually reading the language, so I'm just trying to give
10 you the idea of why we're submitting it.

11 I would also like to submit into the record Exhibit
12 Number 5491, which is an e-mail from Jeff Dhont to Keith Takata
13 of the EPA.

14 Your Honor, I only have a copy. It has a little
15 highlighting on it. I can provide you with a clean copy if you

16 would like.

17 THE COURT: Very well.

18 MR. RAUSHENBUSH: Your Honor, with respect to the
19 Dominguez Channel, we would like to submit the testimony of
20 Jeffrey Dhont. And may we read this into the record, or simply
21 submit it to the court?

22 THE COURT: Submit it. On what page?

23 MR. RAUSHENBUSH: Jeffrey Dhont, pages 52 to 53.

24 MR. O'ROURKE: And we renew whatever objection may be
25 written in the margins.

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1 MR. RAUSHENBUSH: With respect to the evidence of DDT
2 in the neighborhood, we submit all of our designated testimony
3 of Mr. Dhont.

4 THE COURT: What is that?

5 MR. RAUSHENBUSH: Your Honor, it's in the binders
6 that we have submitted to the court. If you would like me to
7 go through and identify each piece, it will take some time, or
8 I can give you a memorandum on that.

9 THE COURT: When you submit it to the court, it

10 doesn't tell me anything.

11 MR. RAUSHENBUSH: Your Honor, we would like to call
12 Jeffrey Dhont to the stand.

13 THE COURT: All right.

14 MR. O'ROURKE: He's an EPA employee they have
15 designated. They didn't tell us when they wanted him to show
16 up or subpoena him.

17 I think we agreed that you didn't have to issue a
18 subpoena as long as you told us in advance.

19 MR. RAUSHENBUSH: Well, Your Honor, I knew in advance
20 as of about 11:30 this morning. And I understood from
21 Mr. Lyons that Mr. Dhont is here.

22 MR. O'ROURKE: No, Mr. Dhont is not here. But in
23 light of the fact that the schedule has changed, we'll agree
24 that the deposition testimony that has been highlighted by the
25 defendants should be used in lieu of live testimony. And we

1 would ask that any counterdesignated portions that we might
2 have counterdesignated also be offered into evidence.

3 And we would renew whatever objections we might have
4 written in the margins to portions that they designated.

5 MR. RAUSHENBUSH: Well, Mr. Dhont's testimony was
6 designated as Mr. Dhont was a Rule 30(b)(6) witness for the
7 United States of America. And I believe we want to call
8 Mr. Dhont live to ask him some questions.

9 MR. O'ROURKE: We are going to have to take a recess
10 to find him. He is in Los Angeles somewhere.

11 THE COURT: He is here?

12 MR. O'ROURKE: He is not in court. He is in
13 Los Angeles.

14 THE COURT: Well, I'm not going to take a recess to
15 do that.

16 (Pause.)

17 MR. RAUSHENBUSH: I'm sorry, Your Honor. Are we
18 taking a break to get Mr. Dhont?

19 THE COURT: They say he's not here in the
20 courthouse. He's in Los Angeles. Unless you want to go up to
21 the 17th floor and yell for Mr. Dhont to come in, okay; but
22 otherwise, I'm not going to recess just to go find him.

23 MR. RAUSHENBUSH: All right. We will submit his
24 entire deposition testimony.

25 THE COURT: Anything else?

1 MR. RAUSHENBUSH: Yes, Your Honor.

2 We would like to move into evidence Defendants'
3 Exhibit Number 5127, which is the addendum to the site-specific
4 work plan and sampling analysis plan and field sampling plan.

5 One second, Your Honor. I believe we have a set of
6 these exhibits for you.

7 Okay. Your Honor, apparently, they are not in the
8 courtroom, so we will have to bring them later.

9 We would move to introduce Exhibit Number --

10 We offer into evidence Exhibit Number 5030, Exhibit
11 Number 5032, Exhibit Number 5067.

12 I'm sorry. I already did that one and I had a copy.

13 5111 --

14 MR. O'ROURKE: And, Your Honor, since he's leafing
15 through them and we don't have copies, I would just reiterate
16 our objections that we have already submitted to the
17 Defendants' Exhibits we filed earlier.

18 MR. RAUSHENBUSH: 5127, 5130, 5176, 5207, 5273, 5307,
19 5349, 5369, 5371, 5376, 5389, 5404, 5433, 5443, 5452, 5480,

20 5487, 5491, 5492, 5501, 5527, 5529, 5113, 5125.

21 I believe that's it, Your Honor.

22 THE COURT: Anything further?

23 MR. RAUSHENBUSH: Given that the witnesses are not
24 available, based upon the court's asking that they proceed now,
25 nothing further.

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1 THE COURT: You will provide all of the exhibits and
2 the deposition testimony that you indicated to the clerk so
3 that I can look at it tonight.

4 MR. RAUSHENBUSH: Thank you, Your Honor.

5 THE COURT: We'll move on it in the morning and
6 submit the matter.

7 Anything else from the government on that issue?

8 MR. O'ROURKE: No, sir.

9 THE COURT: The government can proceed now with
10 its --

11 Those two issues are now submitted.

12 MR. KUSHNER: Your Honor, the government calls as its

13 next witness Brian Edwards.

14 THE CLERK: Please come forward.

15 Please raise your right hand.

16 BRIAN DOUGLAS EDWARDS, PLAINTIFFS' WITNESS, SWORN

17 THE WITNESS: I do.

18 THE CLERK: Please be seated.

19 For the record, sir, would you please state your full

20 name and spell your last name.

21 THE WITNESS: Brian Douglas Edwards, E-d-w-a-r-d-s.

22 MR. KUSHNER: Your Honor, might we have a moment to

23 organize the demonstratives.

24 THE COURT: You may.

25 (Pause.)

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1 DIRECT EXAMINATION

2 BY MR. KUSHNER:

3 Q. Dr. Edwards, where are you currently employed?

4 A. United States Geological Survey.

5 Q. And how long have you been at the USGS?

6 A. I came to the USGS in 1979 as a post doc and got a

7 permanent position there in 1981.

8 Q. What is your position at the USGS?

9 A. I'm a research geologist.

10 Q. Can you describe what you do there, sir.

11 A. Yes. I conduct research of sediment. I'm a

12 sedimentologist. I conduct sedimentological studies on

13 continental margins, using such tools as marine geophysical

14 instruments, various coring apparatus and bottom photography.

15 Q. Dr. Edwards, could you please expand on your experience

16 with respect to bottom photography.

17 A. Yes. I began my experience in 1979 with my Ph.D. work,

18 where I was using bottom photography as a tool investigating

19 animal-sediment relationships in basins offshore of

20 California.

21 During that work, I took course work in invertebrate

22 zoology. The dissertation was then solicited for publication

23 in a special publication on biogenic structures. I've used the

24 tool on a number of occasions -- I'm sorry.

25 I've used the tool on a number of investigations on

1 the continental margins. I've been invited as a guest lecturer
2 on animal-sediment relationships at UC Berkeley. And I've
3 recently been asked to do a workshop with some Southern
4 California marine invertebrate taxonomists.

5 Q. Dr. Edwards, what do you mean "biogenic structures"?

6 A. "Biogenic structures" are structures that are produced by
7 the interaction of the organism with the seafloor.

8 Q. Did you participate in the investigation of the Palos
9 Verdes margin with Dr. Lee?

10 A. Yes, I did.

11 Q. What role did you play in that investigation?

12 A. I played two roles: My primary role was to conduct a
13 camera survey of parts of the Palos Verdes Continental Shelf
14 and adjacent Upper Slope.

15 Additionally, I helped plan and provided logistical
16 support and shipboard support for the sampling phase that
17 happened subsequent to the camera work.

18 Q. Now, Dr. Edwards, did you prepare direct written testimony
19 in connection with the bottom topography part of the
20 investigation that you conducted on the Palos Verdes margin?

21 A. Yes, I did.

22 Q. If you would turn to the tab in the binder that has your

23 written testimony, sir.

24 Is that a copy of your testimony?

25 A. Yes, it is.

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1 Q. And does it bear your signature?

2 A. Yes, it does.

3 Q. Are there any changes you would like to make to it at this
4 time?

5 A. No.

6 Q. What's the subject matter of your testimony?

7 A. It's a summary of the photographic work I conducted on the
8 shelf and adjacent slope.

9 Q. Now, Dr. Edwards, are your qualifications as you've
10 described for the court, but with more elaboration, set forth
11 on pages 3 and 4 of your direct testimony?

12 A. Yes, they are.

13 MR. KUSHNER: Your Honor, the United States and the
14 State of California request that the court recognize
15 Dr. Edwards as an expert in the field of bottom photography and
16 marine sediments.

17 THE COURT: Qualified witness. Okay.

18 BY MR. KUSHNER:

19 Q. Dr. Edwards, are you able to describe for the court in a
20 general fashion how you conducted the camera and video survey
21 that was part of the Palos Verdes margin investigation?

22 A. Certainly.

23 Q. In doing so, please feel free to refer to the exhibits --
24 excuse me -- the demonstratives.

25 A. Yes. The primary tool we used was a camera sled of USGS

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1 design. The sled was fairly large. It's about 10 feet long by
2 three feet -- three and a half feet wide and high.

3 We had three camera systems. We'd done a camera
4 system mounted on the camera sled. We had a black-and-white
5 video camera mounted at the forward end of the sled that
6 provided real time information to us on shipboard.
7 Additionally, we had a Hi-8 color video system, as well as
8 35-millimeter still photography.

9 All three of the systems were mounted in the forward

10 end of the sled. They were positioned in such a way that they
11 provided a vertical or down-looking view of the seafloor. The
12 seafloor was illuminated by lighting systems at the aft part of
13 the sled. Those were at an angle so that the lighting actually
14 impinged on the area viewed by the camera systems, and we had
15 onboard battery packs to provide energy for those lighting
16 systems.

17 The sled was towed by a surface ship through a cable
18 at slow speeds, approximately one, to one-and-a-half knots.

19 Q. Dr. Edwards, using the next demonstrative, could you
20 describe for the court generally the areal coverage that you
21 were able to obtain of the Palos Verdes margin.

22 A. Certainly. We conducted operations in May of 1992, and we
23 occupied seven camera stations over a period of approximately a
24 week. We operated during nighttime hours. The camera stations
25 were designated by me as C1 through C7. In general, the

1 pattern was a zigzag pattern across the shelf, as well as some
2 camera lines that were parallel to the isobaths and a line that
3 came downslope.

4 This particular exhibit -- excuse me -- this
5 particular demonstrative shows the coverage of each of these
6 stations. The black-and-white camera system is by a solid
7 black line, the Hi-8 camera system is by this gold bar, and
8 then the broader blue bar is the coverage by the 35-millimeter
9 camera system.

10 Q. Dr. Edwards, let me direct your attention, if I could,
11 sir, to the binder tab that refers to Plaintiffs' Trial Exhibit
12 3012, Appendix E, Attachment E.A3.

13 A. Yes.

14 Q. What is that, sir?

15 A. These are photocopies -- it's a cover page and then
16 photocopies of a number of the plates that I had contained in
17 my report.

18 Q. I'm sorry, sir. I think you're referring to -- I'm
19 referring you to the Table E.A3.

20 A. I'm sorry, I was reading Attachment E.A3.

21 MR. KUSHNER: Your Honor, may I take a moment and
22 approach the bench and see what the witness is referring to.

23 (Pause.)

24 MR. KUSHNER: I'm going to strike the last question,
25 Your Honor.

1 BY MR. KUSHNER:

2 Q. And let me direct you to the tab in the binder that refers
3 specifically to Appendix E. I believe it's at the end of the
4 binder.

5 A. Yes.

6 Q. What is that document, Dr. Edwards?

7 A. This is a copy of the -- a number of the figures and data
8 tabulation tables and plots of data from my report.
9 Additionally, there is attached in there a report submitted to
10 me by Pamela Morris of the National Marine and Fishery
11 Service.

12 Q. That's your expert report, sir?

13 A. That is my expert report that is without the text
14 supporting that report, yes.

15 Q. Now, refer specifically to the plates of photographs that
16 begin in E-5.

17 A. Yes.

18 Q. Could you walk me through the photographs. Just describe
19 in general fashion for the court what you are observing or what

20 is being depicted in those images.

21 A. You are talking specifically about the plates, the
22 photographic plates?

23 Q. The photographic plates, sir.

24 A. Yes. Figure E-5 is a photograph of the top of a box
25 core.

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1 And by the way, Your Honor, that is one of the box
2 cores that Dr. Lee was speaking of earlier, so you can see what
3 it looks like, as well as a starfish that was collected from
4 that box core.

5 Figure E-6 is a bottom photograph from the
6 photographic survey, as well as -- that would be E-6A. E-6B is
7 a photograph of the top of the box taken on a subsequent cruise
8 in the vicinity of photograph E-6A. Figure E-8 are a series
9 of -- and this is A, B, C, D, E, F, and G. These are all
10 photographs that are from the camera survey that show the
11 general character of the seafloor throughout the study area.

12 Figure E-9, again, are bottom photographs of what I
13 refer to as miscellaneous bottom types. Figure E-10 are

14 photographs of various types of benthic epifauna that we

15 observed in the study areas.

16 Q. These are photographs that you took, sir?

17 A. Yes, they are.

18 Q. For video, a still image? Video image?

19 A. Sorry, yes. The majority of those were taken by the

20 35-millimeter camera system. Some images were taken from video

21 systems, in which case they were frame-grabbed off of that.

22 That would be Figure E-10C, E-10D, E-10E and E-10F.

23 Q. Okay. Thank you, Dr. Edwards.

24 A. There was one other photographic plate.

25 Q. I'm sorry.

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1 A. That's figure E-11. And again, that's a photograph of a

2 box core that we recovered during the sampling phase. That

3 would be Figure E-11A. And then Figure E-11B is the photograph

4 of a burrowing shrimp that we saw when we opened up that box

5 core.

6 Q. Thank you. Now, referring to the next demonstrative,

7 which is number -- the one that refers specifically to fauna.

8 MR. KUSHNER: Your Honor, for the court's
9 convenience, and because we are not entirely pleased with the
10 images as they appear on this demonstrative and the next two,
11 we've provided the court with plates of these photographs in
12 the binder. Those images are much clearer.

13 BY MR. KUSHNER:

14 Q. Could you, please, sir, describe what we can see on these
15 images.

16 A. Yes. These are bottom images of fauna that typify the
17 Palos Verdes Continental Shelf and Upper Slope. I would like
18 to point out a few of those. They were what I refer to as
19 nekto-benthonic or near bottom dwelling fish in images that
20 range from about 40 meters to 380 meters. You see one here at
21 time stamp 8:05. There is a flat fish at time stamp 10:42 and
22 another fish here at -- sorry -- at 16:29. Additionally -- and
23 we saw these types of fish, again, in the depth range of about
24 40 meters to 380 meters.

25 We found starfish, these star-shaped animals, primarily on

1 the shelf, depths around 45 or so meters to 65 meters. There
2 were starfish -- excuse me -- there were sea urchins at greater
3 depths, typically starting at about 80 meters going down to
4 depths of approximately 380 meters, the limit of the Hi-8 data
5 set.

6 Those are the primary animals that we saw or some of
7 the major animals we saw in the area. We did see on four
8 occasions these larger ray-like animals. This animal has been
9 identified for me by Pamela Morris in a report that I mentioned
10 earlier as a skate. And we saw three of these animals in the
11 vicinity of the outfall deposits. And this particular one that
12 I'm showing here was in somewhat deeper water, shown here by
13 the "S" on this diagram.

14 I also wanted to mention that for reference, I have
15 plotted the camera tracklines on top a plot of the surface
16 effluent deposit.

17 Q. In your opinion, in these photographs, is there any
18 evidence of burrowing?

19 A. Yes. Thank you very much. There is clear evidence, and
20 actually it's not very clear on this image; but, Your Honor,
21 it's much clearer in the individual pieces that you've got. I
22 would like to draw your attention specifically to -- I'm
23 sorry. I was looking at the wrong tab -- 8:05.

24 There are very clear open holes in the seafloor at
25 this location, slightly above that. It's equivocal whether

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1 this is an open hole or certainly collapsed holes. You can see
2 a number of other holes in the figure at 06:56. Very clear,
3 sharply defined opened openings in the seafloor.

4 And if you look to the box core photograph, which you
5 can't see clearly here, but that we did provide as the blowups,
6 those holes very clearly are openings into the seafloor. And
7 it's -- and we're interpreting these. And it's very common to
8 interpret within the community these type of open holes as
9 burrows caused by burrowing infaunal animals.

10 Q. What does "infaunal" mean, sir?

11 A. Living within the sediment mass. And as you can see in
12 the second piece, or what is labeled -- actually, they are not
13 labeled on this exhibit, but what would be the slab face taken
14 from this box core.

15 The box core has a removal face plate, Your Honor.
16 And if we removed that and laid the core on its side, we could

17 see burrows exposed at depth. And when I did that, I saw this
18 burrowing shrimp shown here crawl out of one of those open
19 burrows. So we have evidence of animals borrowing within the
20 sediment mass.

21 Additionally, going back to 06:56, when the organisms
22 enter at -- with the seafloor, they necessarily create various
23 scales of bed roughness. They create mounds. They create
24 depressions. You can see very clearly around the starfish a
25 number of depressions. And indeed, at this -- at this

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1 location, just here on the higher quality photograph image, you
2 can see the imprint of a starfish itself. So they do create
3 impressions on the seafloor.

4 Q. Let me direct your attention, if I could, Dr. Edwards, to
5 the next demonstrative exhibit.

6 A. Actually, there was one more point related to the
7 borrowing effects; and that is, in this area, you can see one
8 of these borrows that is actually apical or at the center of a
9 mound of sediment or objected sediment. And also, in this
10 area, you can see these burrows in the depressions. And I will

11 be -- it is important for me to point that out because we will

12 be seeing these in the subsequent photographs.

13 Q. Thank you, sir. Next demonstrative.

14 What is it that we can see from these images?

15 MR. KUSHNER: And, Your Honor, once again, we have

16 provided you plates and we have plates for counsel.

17 THE WITNESS: These photographs were all taken along

18 or very close to the 60 meter isobath so it gives you a sense

19 of the along-shelf variability in the amount of biogenic

20 interaction or these types of biogenic structures on the

21 seafloor.

22 The figures on the left-hand side appear fuzzy

23 because they were taken closer to the seafloor, somewhat out of

24 focal point. But in every instance, you can see clearly that

25 there are open burrows and these depressions that I was talking

1 about produced biofaunal interaction with the bed. Also, in

2 these images, you can see near-bottom dwelling fish.

3 Q. The 60 meter isobath, is that in the vicinity of the area

4 where LACSD would attempt to obtain samples?

5 A. I believe that's referred to as the sea -- what would be

6 the sea line. And specifically, I would draw your attention to

7 the photograph at 5:03 which was taken as close as our camera

8 line came to Station 556, which would be LACSD 6C. And again,

9 here, although it is fuzzy, and it is clearer on your

10 individual photograph, you can see the same kinds of structures

11 of open holes, burrows and these depressions and mounds that

12 were created on the seafloor.

13 Q. Turning your attention to the next series of photographs,

14 Dr. Edwards, if you could describe those for the court, we

15 would appreciate that.

16 MR. KUSHNER: And once again, Your Honor, we have

17 provided you with a set of better images.

18 BY MR. KUSHNER:

19 Q. Dr. Edwards, please proceed.

20 A. Yes. These are a series of photographs that show the

21 variability across shelf, starting in the upper left-hand

22 corner. They start near shore and move farther offshore

23 through this pattern. I believe the shallowest station was at

24 about 45 meters, the deepest station at about 111 meters. And

25 once again, if we look at the stations on the shelf itself --

1 this one, I believe, was at about 65 meters -- you'll see the
2 same pattern. There is abundant evidence of burrows,
3 depressions, activity indicators, funnel activity with the
4 bed.

5 The image at 443, which was at 111 meters, appears
6 much smoother. There are still burrows there, but the seafloor
7 itself appears much smoother; and in part, that's because the
8 camera was farther away from the seafloor, but it is an area of
9 reduced burrowing relative to what I have seen on the Shelf.
10 And also, at 519 -- again, it is somewhat difficult to see in
11 this photograph -- there were other images that you had me
12 point out when you spoke to the images in my report. But there
13 are alignments of ridge crest that relate to sediment rippling,
14 so -- although this is not a particularly good example of
15 that, if I may refer to that other image?

16 Q. Please do so, sir. You are referring to the -- your
17 report in the last tab --

18 A. The last tab. It shows Appendix E, "Camera Survey," in my
19 book. Two of the better images would be Figure E-6. And in
20 there you can see alignments of ridges that run from the upper

21 left-hand corner to the lower right-hand corner of the image.
22 You can see similar features on Figure E-8C. My interpretation
23 is that these are ripples that were caused by the interaction
24 of surface waves or the orbital motion with the seabed. And
25 you can also see that in each of these cases, those ripples are

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1 being degraded by burrowing or other biogenic activity.

2 Q. Thank you, Dr. Edwards.

3 Dr. Edwards, are there any images that you obtained
4 of the Palos Verdes margin which you believed did not indicate
5 the presence of infaunal activity?

6 A. No, not that I can recall.

7 Q. Dr. Edwards, based on your camera survey and your
8 expertise in the field of bottom photography, have you reached
9 any opinions regarding the character of the Palos Verdes margin
10 sediments as it relates to infaunal activity and your camera
11 work?

12 A. Yes. Based on my 20-some years working with bottom
13 photographs, these provide very clear evidence of epifaunal

14 activity or that would be activity right at the bed. And
15 that's direct evidence as well as inferential evidence of
16 activity within the upper few centimeters of the bed. Clearly,
17 with these camera systems, we can't see into the sediment
18 mass.

19 But from my experience, I conclude that burrowing and
20 these kinds of biological activities are pervasive throughout
21 the study area; that there is evidence, therefore, of
22 biological activity and the rippling provides evidence of
23 physical interaction with the seafloor.

24 MR. KUSHNER: At this time, Your Honor, we would move
25 into evidence the testimony of Dr. Brian Edwards.

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1 MR. SINGARELLA: Your Honor, we have one hearsay
2 objection to Dr. Edwards' report, because the attachment to it
3 was prepared by a biologist who was not working under
4 Dr. Edwards' supervision and it's pure hearsay.

5 MR. KUSHNER: Your Honor, earlier today, you moved
6 into evidence Exhibit 3012, which is the report to which
7 Dr. Edwards' Appendix is attached.

8 MR. SINGARELLA: Well, I would simply convert my
9 objection to a motion to strike then.

10 MR. KUSHNER: At the -- excuse me, Your Honor.

11 THE COURT: What's the basis of the objection? I
12 didn't get that.

13 MR. SINGARELLA: Your Honor, the objection is a
14 hearsay objection.

15 THE COURT: On what basis?

16 MR. SINGARELLA: It's hearsay. These are
17 out-of-court statements by Pamela Morris, a biologist at the
18 time who was working for the government for the National
19 Fishery Service; and she wasn't even working at the supervision
20 of Dr. Edwards, but yet her report appears as an attachment of
21 Dr. Edwards' camera survey report.

22 MR. KUSHNER: Your Honor, the expert, Dr. Edwards, is
23 permitted to rely on the opinions of others.

24 THE COURT: The objection is overruled.

25 MR. KUSHNER: Nothing further, Your Honor.

1 THE COURT: Cross-examination.

2 CROSS-EXAMINATION

3 BY MR. SINGARELLA:

4 Q. Dr. Edwards, could you confirm for me that your camera
5 survey report, Appendix E, specifically identifies only one of
6 these so-called burrowing shrimp?

7 A. I believe that's correct.

8 Q. And that was the one from Core 111-B1 that we saw; right,
9 sir?

10 A. I believe that is correct, yes.

11 Q. Now, have you heard these burrowing shrimp referred to as
12 "ghost shrimp" in the past?

13 A. I have heard of various burrowing shrimp referred to as
14 ghost shrimp, yes.

15 Q. Now, sir, could you also confirm for me that you didn't
16 actually find any ghost shrimp during your photographic work?

17 A. Could you --

18 Q. I mean, during the camera survey itself, during the images
19 gathered over the 43-some-odd hours of taping fail to identify
20 a single ghost shrimp; right, sir?

21 A. Ghost shrimp are infaunal. They live their life within
22 the sediment mass. And as I mentioned, with this camera
23 system, I cannot see into the sediment mass, so that would be

24 an accurate statement. I did not see any ghost shrimp with
25 that camera survey.

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1 Q. And these ghost shrimp were the animals that you referred
2 to as the so-called "smoking gun organism"; right, sir? Do you
3 recall your use of that term?

4 A. I did use that term, yes. Yes.

5 Q. Now, you did find a few water column shrimp in your
6 survey?

7 A. I don't believe I did; no, sir. I think -- if I could
8 help you to speed this along, I think you're referring to
9 epifaunal shrimp. And they, in my mind, are not water column
10 shrimp.

11 Q. Thank you for that clarification. You found two of them;
12 right?

13 A. I can't -- I would have to check my notes to see how many
14 I saw throughout the entire survey.

15 Q. Okay. Well, at the bottom of page 9 of your affidavit,
16 carrying over on to page 10, you indicate that you found two
17 epifaunal shrimp on a generally smooth seafloor. Do you see

18 that, sir.

19 MR. KUSHNER: What's the page number?

20 MR. SINGARELLA: Bottom of page 9 of the witness'
21 affidavit.

22 THE WITNESS: I must have misinterpreted your prior
23 question. This sentence about this area that you pointed me to
24 refers to Figure E-10A; and in that particular figure, I did
25 see two epifaunal shrimp. But I believe -- I would have to

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1 check my report, but I believe I saw more than those two
2 epifaunal shrimp throughout the study.

3 BY MR. SINGARELLA:

4 Q. Now, do you recall during your work in conjunction with
5 this case at one point misidentifying one of these epifaunal
6 shrimp as one of the ghost shrimp?

7 A. I wouldn't characterize it that way. At the time that I
8 saw the epifaunal shrimp, I thought -- yes, I thought it might
9 be one of the burrowing organisms that had been referred to as
10 ghost shrimp. Clearly, the ghost shrimp are infaunal

11 organisms. These are epifaunal organs and they're not the same
12 animal.

13 Q. You're clear now that you didn't identify any of these
14 burrowers during your photographic coverage, your underwater
15 coverage?

16 A. I think I previously, just a moment ago, testified that I
17 did not see any of the infaunal burrowing shrimp as part of the
18 camera survey work. That's correct.

19 Q. Now, one purpose of your camera survey was to look for
20 large organisms; right, sir?

21 A. I don't remember that as being a specific -- as being a
22 specific objective. And furthermore, "large" is a subjective
23 term, so I need a little more reference on that.

24 Q. Well, do you recall having your deposition taken in this
25 case, sir?

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1 A. I certainly do.

2 Q. And do you recall that we spent some time talking about
3 your field notes that you recorded during your camera survey
4 work?

5 A. I have got a general recollection of that, yes.

6 Q. This is from page 304 of your transcript, sir. And at
7 that point in the deposition you were talking about your field
8 notes and something that you had written into your field
9 notes.

10 Do you see that? I asked you: "Do you see four
11 lines down from the top where your field notes said, quote,
12 'large organism is very important,' exclamation mark"? And
13 you answered "yes."

14 Do you recall that, sir?

15 A. Not specifically, but I certainly see the language here
16 from the deposition, yes.

17 Q. Now, sea lions are large organisms; right, sir?

18 A. Indeed, I would so characterize them, yes.

19 Q. And during your week at sea, covering much of the Palos
20 Verdes margin, you didn't see any sea lions diving down to the
21 bottom, did you, sir?

22 A. The reason I'm pausing, I did not see any sea lions in the
23 photographs, in either the still photographs or any of the
24 video images. I didn't know if your question also extended to
25 observations from the surface of the ship.

1 Q. No, it didn't, sir. You didn't see any sea lions in your
2 photographic evidence of the bottom-eating white croaker,
3 right, sir, at the Palos Verdes Shelf?

4 A. No, sir, I did not.

5 Q. And isn't it true, sir, that you didn't see any evidence
6 of biogenic traces left behind by sea lions on the bottom of
7 the Palos Verdes Shelf?

8 A. That's correct. I saw nothing that I could attribute to
9 the interaction of the sea lion with the bed.

10 Q. Now, could you turn to your affidavit at page 14, sir. In
11 your conclusions, the first full paragraph of that page, you
12 indicate that, quote: "The evidence supports the argument that
13 the upper part of the Shelf sediment column is continually
14 reworked both biologically and physically."

15 Did I read that correct, sir?

16 A. Yes, sir, you did.

17 Q. Now, that's a principal conclusion of yours with respect
18 to the Palos Verdes Shelf; right, sir?

19 A. That is my opinion, yes.

20 Q. Can you make that broad conclusion with reasonable

21 confidence, sir?

22 A. I believe that that conclusion certainly applies to the

23 entire coverage that we had with the camera stations.

24 Obviously, I -- I shouldn't say "camera stations." With the

25 data along the camera tracklines. I did not actually make

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1 observations in the intervening areas of the shelf.

2 Q. Do you recall that I asked you about that very same

3 conclusion at your deposition?

4 A. Actually, I don't recall that, no.

5 Q. This is an excerpt from pages 606 and 607 of your

6 deposition, where I asked you:

7 "Do you intend to take the stand in this case

8 as a witness for the government and testify with

9 reasonable confidence that the, quote, 'upper

10 part of the shelf sediment column is continually

11 reworked both biologically and physically,'"

12 close quote?

13 Do you remember that question, sir?

14 A. I do now; yes, I do.

15 Q. And you said "no, not that specific assertion," didn't
16 you, sir?
17 A. I did say that, yes.
18 Q. And now that specific assertion is presented to this court
19 in your affidavit; isn't that right, sir?
20 A. Yes, it is.
21 Q. Now, on page 13 of your affidavit, lines 21 through 23,
22 you are referring to "out-sized depressions and their cause."
23 Do you see that, sir?
24 A. Yes, I do.
25 Q. You say, quote:

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1 "The numerous irregularly shaped out-sized
2 depressions observed throughout the study area
3 may or may not be caused by skates or other
4 elasmobranches interacting with the bottom."
5 Do you see is that, sir?
6 A. Yes, I do.
7 Q. Now, isn't that simply another way of saying that you

8 don't know what caused these out-sized depressions, sir?

9 A. That is correct. I do not know what caused the

10 depressions. This was stated in the context of --

11 Q. Sir, you have answered my question.

12 A. All right.

13 Q. Could you turn to -- back to page 14 of your affidavit,

14 the second full paragraph, the last sentence. You say:

15 "Skates are known to be active bioturbators and may or may not

16 be responsible for these large depressions."

17 Do you see that, sir?

18 A. I apologize, Mr. Singarella. I was listening to your

19 words. I was looking at you. I did not --

20 Q. Okay. We are on page 14, sir.

21 A. Yes, sir.

22 Q. The second full paragraph, last sentence: "Skates are

23 known to be active bioturbators and may or may not be

24 responsible for these large depressions."

25 Do you see that, sir?

1 A. Yes, I do.

2 Q. Once again, sir, you are simply saying that you don't know
3 what caused the depressions; right?

4 THE COURT: He's concluding from the sentence before
5 that, counsel.

6 MR. SINGARELLA: Thank you, Your Honor.

7 BY MR. SINGARELLA:

8 Q. Would you agree, sir, that you cannot --

9 THE COURT: It's like the cookie jar, counsel.

10 BY MR. SINGARELLA:

11 Q. Would you agree, sir, that you cannot determine whether
12 the burrows in your camera survey are anything other than old
13 and empty?

14 A. I wouldn't -- I cannot tell from the photographic survey
15 whether any specific burrow is occupied currently by an
16 organism. However, their morphologies, the freshness, the
17 sharpness of the edges suggest that they are recent.

18 Q. Now, pockmarks were another feature observed in your
19 camera survey; right, sir?

20 A. I believe I had a category of pockmarks; yes, sir.

21 Q. Now, with respect to the pockmarks, would you agree that
22 you cannot comment intelligently as to the origin of the
23 pockmarks?

24 A. That's correct. The only connection -- direct connection

25 that I had with those -- and as I recall, the pockmarks are in

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1 relatively deep water. I would have to check my notes, but I

2 think they are on the slope or the upper part of the slope.

3 And I did see an octopus occupying one of the pockmarks. It

4 was about the same size. But I don't know if that organism was

5 responsible for the creation of that form; that's correct.

6 Q. Thank you. Now, you're not making any judgment with

7 respect to bioturbation depth, are you, sir?

8 A. No, I'm not.

9 Q. In your direct testimony, you indicated that you thought

10 there was evidence of disturbance of a few centimeters. Do you

11 recall saying that, sir?

12 A. In that regard, I am making a judgment that I can see

13 disturbances by the mounds that I referred to, the depressions

14 that I referred to in the upper few centimeters, yes.

15 Q. The upper one to three centimeters, sir?

16 A. I think that would be fair.

17 Q. Now, would you agree that the camera survey was restricted

18 to physical and biological activity either at or just above the
19 seafloor surface?

20 MR. O'ROURKE: I object. Just for clarity reasons, I
21 don't understand the question. I'm not sure the witness
22 would.

23 (Pause.)

24 BY MR. SINGARELLA:

25 Q. Let's go back to the prior page.

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1 Do you recall I asked you during your -- I asked you a
2 question during your deposition and your answer was: "The
3 camera survey is restricted to events or activities recorded at
4 or just above the seabed, not within the sediment mass as a
5 general statement."

6 Do you recall saying that, sir?

7 A. I don't have great clarity with that, but I certainly see
8 it here. And, yes, I can see saying that.

9 Q. Would you agree that it's an unjustifiable assumption to
10 use signs of animal activity at the seafloor surface as a
11 measure of infaunal activity?

12 A. Are you referring to the Ounst paper (ph) that you pointed
13 out to me during my deposition.

14 Q. That's right, sir.

15 A. Yes. Very clearly, you cannot use that as he states
16 because it severely underestimates the amount of infaunal
17 activity.

18 Q. Could you, please, pull up 2017. During your deposition,
19 I asked you, do you agree with the authors of the paper to
20 which you refer "that it is an unjustifiable assumption to use
21 signs of animal activity at the surface as an approximate
22 measure of the amount of infaunal activity?"

23 And you said:

24 "To try to quantify that, I don't think you can
25 use photographic evidence and the appearance of

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1 these features to quantify; that is, to make
2 estimates of the density or diversity of the
3 infaunals."

4 You didn't say anything there about underestimating

5 infaunal activity by using camera survey work, did you, sir?

6 A. No. And you didn't ask me any questions related to that.

7 MR. SINGARELLA: Thank you, sir. No further

8 questions.

9 THE COURT: We'll take a break for the reporter.

10 THE CLERK: All rise.

11 (Recess taken.)

12 MR. KUSHNER: Your Honor, we have no redirect for

13 Dr. Edwards.

14 THE COURT: You may step down, Dr. Edwards.

15 Call your next witness.

16 MR. KUSHNER: We call as our next witness

17 Dr. Robert Wheatcroft.

18 THE CLERK: Would you raise your right hand.

19 ROBERT ARTHUR WHEATCROFT, PLAINTIFFS' WITNESS, SWORN

20 THE WITNESS: I do.

21 THE CLERK: Please be seated.

22 For the record, sir, would you please state your full

23 name and spell your last name.

24 THE WITNESS: Robert Arthur Wheatcroft,

25 W-h-e-a-t-c-r-o-f-t.

1 DIRECT EXAMINATION

2 BY MR. KUSHNER:

3 Q. Dr. Wheatcroft, where are you currently employed?

4 A. In the College of Oceanic & Atmospheric Sciences at Oregon
5 State University.

6 Q. What is your position there, sir?

7 A. Associate professor.

8 Q. And what is it that you do there?

9 A. I perform research and teach at the graduate level.

10 Q. Can you describe the research that you perform.

11 A. Well, in general, it involves interactions between marine
12 organisms, particularly those that live on the bottom, and
13 sediments. I do that in a variety of environments. Tools that
14 I use or methods that I use to do that include bottom
15 photography, taking cores, examining X-radiographs, measuring
16 radionuclides; enumerating, quantifying animals living on the
17 bottom. I do a lot of experimentation on the bottom using
18 submersibles and also extensive scuba.

19 Q. You mentioned also that you teach?

20 A. That's correct.

21 Q. What is it that you do your course work in?

22 A. I'm in the biological oceanography discipline at OSU. In
23 particular, I teach a course called the Marine Benthic
24 Ecology. That course involves interactions of marine sediments
25 and marine animals on the bottom.

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1 Q. Have you been retained by plaintiffs in this case to
2 examine bioturbation processes on the Palos Verdes Shelf and
3 margin?

4 A. Yes, I have.

5 Q. Did you prepare direct written testimony for use by the
6 United States and the State of California in connection with
7 this case?

8 A. Yes.

9 Q. Dr. Wheatcroft, if you could turn to your testimony in the
10 binder.

11 Is this your testimony, sir?

12 A. Yes.

13 Q. And does it bear your signature?

14 A. Yes, it does.

15 Q. And what's the subject matter of the testimony?

16 A. Sediment bioturbation on the Palos Verdes Shelf.

17 Q. Dr. Wheatcroft, are your qualifications similar to the
18 ones you described already for the court set forth in more
19 detail on pages 3 and 4 of your direct testimony?

20 A. Yes, they are.

21 Q. And what is your area of study?

22 A. Again, it's animal-sediment relations in the marine
23 environment with a particular emphasis on bioturbation.

24 MR. KUSHNER: Your Honor, the United States and the
25 State of California request at this time the court recognize

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1 Dr. Wheatcroft as an expert in the field of bioturbation.

2 THE COURT: He is a witness by training. You can ask
3 the question.

4 BY MR. KUSHNER:

5 Q. Dr. Wheatcroft, can you please explain to the court what
6 "bioturbation" is?

7 A. Yes. "Bioturbation" is a process that involves sediment
8 movement or sediment displacement by animals living on or in

9 the seafloor during the course of their day-to-day activities.

10 Q. Now, can you identify for the court what you did as part
11 of the Palos Verdes investigation to determine whether or not
12 there was bioturbation processes occurring on the Palos Verdes
13 margin?

14 A. Yes. I collected samples to quantify the distribution of
15 animals living in the seafloor, and I also measured a
16 radionuclide of thorium 234.

17 Q. Now, based on this work, Dr. Wheatcroft, and your
18 experience and expertise in the study of bioturbation
19 processes, do you have opinions regarding bioturbation on the
20 Palos Verdes Shelf and margin?

21 A. Yes, I do.

22 Q. And what are those opinions, sir?

23 A. Well, that the sediments on the Palos Verdes Shelf, in
24 particular along the 60 meter isobath where I focused most of
25 my attention -- that those sediments are extensively and

1 rapidly bioturbated; that is, mixed by the organisms present,

2 and that that mixing extends for tens of centimeters into the
3 seafloor and results in a redistribution -- a vertical
4 redistribution of sediments and the associated adsorbed
5 contaminants.

6 Q. What does "adsorbed" mean?

7 A. It means that things like a contaminant is adsorbed. It's
8 on the surface as opposed to "absorbed," which means it's in.

9 Q. Now, turning first to the -- your study with respect to
10 macrofauna and identification thereof, could you describe for
11 the court specifically what you did in connection with
12 collecting the sediment to analyze or to observe the
13 macrofauna?

14 A. Yes. We used a box core slightly different than the ones
15 that had been mentioned previously. Our box core was 50 by 50
16 centimeters in size. And within that box core, there were
17 subcores. And we used that at three different sites along the
18 Palos Verdes margin.

19 Q. Now, Ms. Jennings just brought up to the witness stand a
20 demonstrative. Could you describe for the court what that is.

21 A. Yes. When I refer to a "subcore," this is what I was
22 talking about. And this subcore, when it's being used, is
23 mounted in the box core in a vertical position, like this
24 (indicating). In our case, there would have been 25 of these

25 in the box core itself.

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1 When it gets brought up to the surface, we take this
2 out of the core, keeping it in a vertical position like this
3 (indicating). The sediment might be filled up to about here
4 and water is overlying that. So we have about 30 centimeters
5 of sediment in the subcore. We then vertically -- we slice it
6 so that we have depth horizons that may range in different
7 thicknesses. And then we do analyses on these samples.

8 Q. Thank you. Did you report your findings regarding the
9 abundance of macrofauna on the Palos Verdes Shelf in your -- in
10 an expert report?

11 A. Yes, I did.

12 Q. Let me direct your attention, if I could, Dr. Wheatcroft,
13 to Plaintiffs' Exhibit 3059, Appendix E and Appendix 3 to
14 Appendix E. I believe it should be a tab in your notebook.

15 A. Yes, I have it.

16 Q. What is that, sir?

17 A. This is a tabulation of all of the macrofauna data
18 collected at these three sites: 502, 522 and 556. It reports

19 the abundance of the animals in question, the taxonomic
20 identification or status of those animals and their
21 distribution with depth within the sediment.

22 Q. Now, let me direct your attention, if I could, to the
23 demonstrative that Ms. Jennings is about to put up.

24 Is this a table you prepared, sir?

25 A. Well, it's a chart. It's a graph.

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1 Q. Excuse me. Could you please describe what this shows?

2 A. Before I do that, I want to clarify this word right here:

3 "Macrofauna." There's lots of different fauna, epi, infauna.

4 "Macrofauna" alludes to -- it's a definition that

5 the smallest sized dimension of an animal in this case is half

6 a millimeter. The animals are much larger. We're talking

7 mostly about worms so they're actually much longer. So

8 macrofauna -- that's what I mean by macrofauna here.

9 Predominately, these are macrofauna that live in the
10 sediments.

11 What this shows is the abundance at these three sites

12 or stations which, again, are 502, 522 and 556. Those
13 correspond roughly to Los Angeles County Sanitation District
14 sites 0C, 3C and 6C. And what you see -- these are
15 different -- these bars -- I want to direct your attention to
16 the green bars. These are the station averages.

17 Again, we took three different box cores and within
18 each of the box cores, we had three subcores in which we
19 quantified the macrofauna abundances. What I want to point out
20 is that the abundances range from 400 at the -- near -- this is
21 near the outfall. It's about 1.7 kilometers downstream of the
22 outfall. About 400 animals in a subcore of this size and then
23 it drops off a little bit to 300 and then to about 150 as you
24 move away from the outfall.

25 Q. Thank you. Directing your attention to the next

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1 demonstrative, what does this demonstrative tell you about the
2 distribution of macrofauna at depth on the Palos Verdes Shelf?

3 A. Well, this is again -- now, we are looking at the
4 abundances. The macrofauna has been moved into the sediment.
5 This is a log scale. I note that. It's, again, animals per

6 this 10 X 10 centimeter subcore. This is the station means,
7 again, for -- the site means for 556, 522 and 502, and then the
8 different depth horizons in centimeters.

9 What you see is that, as is the case in virtually all
10 marine sediments, there are more macrofauna in the upper pieces
11 of the sediment that declines with depth. But there are still
12 substantial numbers of macrofauna. At depths of, say, 12 to
13 20, we still have three or four in, again, this size of a core
14 which -- so, if you scaled up to a meter squared -- this is a
15 hundredth of a meter squared, so you get 300 to 400 per meter
16 squared.

17 Now, the reason I didn't plot this down here -- we
18 actually found macrofauna below 20 centimeters, but the
19 thickness of the horizon -- because the depth to which these
20 penetrate was variable within cores and even within different
21 subcores. Because of the biogenic topography that Dr. Edwards
22 alluded to, we didn't feel it was reasonable to plot because of
23 the -- we are averaging at different depth intervals. But
24 there certainly are animals in the greater than 20 centimeter
25 depth horizons.

1 Q. So is it your opinion that you found animals below that
2 horizon?

3 A. Well, we certainly did.

4 Q. What type of animals did you find?

5 A. Well, as it is generally the case, in marine sediments,

6 mostly polychaetes, p-o-l-y-c-h-a-e-t-e-s. These are worms.

7 Marine annelids. We also saw bivalve molluscs. That's clams.

8 We also saw in some cases crustaceans, in particular a

9 burrowing shrimp. It's a thalassinid shrimp.

10 Q. And what is the significance of finding these animals?

11 A. Well, the animals are down there. They can't be down

12 there and not be displacing sediment. They can't be down there

13 and not be bioturbating, so that's the significance.

14 Q. Now, Dr. Wheatcroft, did you perform any additional work

15 to confirm that the animals in the sediment displaced sediment?

16 A. Yes, I did.

17 Q. And what is that?

18 A. Well, we measured a naturally occurring radionuclide that

19 we heard earlier the defendants talking about lead 210. This

20 was another one that we used, which is thorium 234. And we

21 measured the depth distribution of the thorium 234. It's a

22 standard technique that allows us to quantify the rates of
23 bioturbation.
24 Q. And did you find the radioisotope thorium 234 at depths in
25 the subcores?

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1 A. That's correct; we did in all of them.

2 Q. And in your opinion, what is the significance of having
3 found thorium 234 -- I should say excess thorium 234 at depth.

4 A. Well, the source of excess thorium 234 is at the
5 sediment-water interface. And because thorium is a relatively
6 short-lived radioisotope -- it has a half-life of around 24
7 days. So operationally, that means it's only around,
8 measurable for about 100 days. So what it means is that those
9 particles that the thorium is absorbed in had to have been at
10 the sediment-water interface in the previous 100 days and they
11 were mixed down, transported down.

12 Q. And how does the thorium 234 get to depth?

13 A. Well, there's only two ways, really. One way is by
14 sediment accumulation. You can pile more sediment on top. And
15 because we always take the -- zero is always the sediment

16 water-interface that moves things downwards. But we know that
17 that would not have been the case with thorium 234, because
18 sedimentation rates would have had to be very high. They would
19 have had to be 15 to 25 centimeters a year, and we wouldn't be
20 in this courtroom if that were the case.

21 So we are left with bioturbation as the only other
22 thing that can move things -- this thorium 234 -- down. And --
23 well, that's --

24 Q. Well, you indicated earlier -- you indicated earlier that
25 you didn't find excess thorium 234 below 10 centimeters. What

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1 is the significance or what does that mean to you?

2 A. Well, one thing is that because thorium decays so rapidly,
3 we didn't even measure for thorium 234 below 10 centimeters.

4 The thorium was at concentrations, that is, activities that
5 were extremely small even at 6 centimeters or 8 centimeters.

6 But the absence of thorium 234 at depth doesn't mean anything
7 with respect to the depth of mixing. And that's been a
8 substantial point of confusion.

9 It really does not tell you the depth to which mixing
10 extends. If you see thorium at a particular depth and you can
11 rule out the sediment accumulation, like I explained before,
12 it's an indication that mixing certainly extends to that depth,
13 but it doesn't tell you about what's happened below.

14 Q. Does bioturbation just result in downward mixing?

15 A. No, definitely not. You can't move sediment down and not,
16 in some cases, move sediment up. And the good analogy is you
17 got a line of people and you got somebody in the back of the
18 line. If that person goes to the front of the line, well,
19 operationally, everybody in the line moves backwards. It's the
20 same thing. All bioturbation -- virtually all bioturbation
21 results in some movement of sediment up.

22 Q. Let me direct your attention to the next demonstrative.

23 What are these, Dr. Wheatcroft?

24 A. These are X-rays. These are examples of X-radiographs that
25 were collected by the USGS on the Palos Verdes Shelf.

1 Q. And what do these show?

2 MR. WOLKOFF: Objection, Your Honor. There's nothing

3 in his report about these X-radiographs, not a word.

4 MR. KUSHNER: That's absolutely correct, Your Honor.

5 There is nothing in his expert report. These are photo images
6 of exactly the same processes that Dr. Wheatcroft has been
7 talking about. These documents -- these images were produced
8 to the defendants in 1995. They had them available for two
9 years prior to Dr. Wheatcroft's five days of deposition. They
10 didn't ask him about them. Yes, it is true.

11 In addition, Your Honor, these were identified on
12 Plaintiffs' exhibit list, and there were no objections to that
13 on Plaintiffs' exhibit list.

14 Your Honor, Dr. Wheatcroft completed his expert
15 report in October of '94. His work was essentially completed
16 in 1993. He, like all good scientists, has continued to
17 evaluate these issues. He has viewed these since the
18 production of his expert report.

19 You are going to be hearing plenty of information
20 from these defendants based on their reports produced this
21 year. And if Your Honor wants to hear the most current
22 information and to have some balance between these very recent
23 expert reports from these defendants and the opinions of our
24 experts based on documents and information produced to the
25 defendants, then we would suggest -- we would like

1 Dr. Wheatcroft to be able to testify about this.

2 MR. WOLKOFF: Your Honor, there is not a word about
3 the X-radiographs in his report. And I did, contrary to
4 Mr. Kushner's statement -- I asked this witness whether or not
5 he had looked at the X-radiographs that had been in existence
6 since 1992, at page 293, line 6:

7 "Question: But you never bothered to look at
8 the X-radiographs that were taken?

9 "Answer: No.

10 "Question: The answer is Yes, you never
11 bothered?

12 "Answer: The answer is yes."

13 So I did try to question him about it, but he said he
14 never looked at them, Your Honor.

15 MR. KUSHNER: Your Honor, he has looked at them since
16 his deposition. The point is is that the X-radiographs were
17 produced to the defendants well before the deposition. If they
18 wanted to examine him on the images of the seafloor to

19 determine whether or not that direct evidence of bioturbated

20 processes, then they could have done so.

21 MR. WOLKOFF: I tried to, Your Honor. He said he

22 never looked at them. It's not in his report.

23 THE WITNESS: Could I clarify something?

24 MR. WOLKOFF: It's not in his report --

25 THE COURT: Just a moment.

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1 THE WITNESS: The X-radiographs that Mr. Wolkoff is

2 referring to were from a different cruise and I, in fact, did

3 not ever look at those X-radiographs. Those were in March of

4 '93. These were from the main cruise -- what we call the main

5 cruise, which was July of '92.

6 MR. KUSHNER: To clarify, Your Honor, these are from

7 the cruise that Dr. Lee testified to. These are the

8 X-radiographs that were produced and made available at the USGS

9 to counsel for the defendants who visited there and selected

10 what they wanted from a whole room of documents. And these --

11 they've had these in their possession for five years.

12 MR. WOLKOFF: Your Honor, there is not a word about

13 it in his expert report.

14 THE COURT: Did you have them for five years?

15 MR. WOLKOFF: Your Honor, we had them since 1992.

16 THE COURT: Have you had them for five years? Just
17 answer the question.

18 MR. WOLKOFF: Yes, we did.

19 THE COURT: The objection is overruled.

20 BY MR. KUSHNER:

21 Q. Dr. Wheatcroft, using these images, can you please
22 describe for the court what they show?

23 A. Before I do that, I just want to kind --

24 MR. KUSHNER: Your Honor, may I approach the witness
25 just for a moment. In doing so, I would like to also request

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1 that the witness be able to approach the exhibits when he is
2 discussing them.

3 THE COURT: Can you do it with a laser?

4 THE WITNESS: Yes. I'm not sure this is necessary,
5 but we'll see.

6 First of all, to orient you to what these are, these
7 are just like you go to get your chest x-rayed. These are
8 transmission X-radiographs where -- what the USGS did was take
9 a slab of sediment that was roughly an inch in thickness
10 through which the X-rays passed. It was much larger. In fact,
11 those X-radiographs are the real size in the vertical and the
12 horizontal of the slab of sediment.

13 And like your chest x-ray or your teeth, dental
14 x-ray, the attenuation of the X-radiographs -- that is, how
15 much x-ray energy gets through to the film -- depends on
16 properties of whether you got bones or tissue. In this case,
17 it depends on the bulk density; that is, the density of the
18 sediment that you see there.

19 And so it is a standard -- well, I should also orient
20 you. Again, this is the sediment-water interface up here, so
21 these are vertical cross-sections on a micro scale. And they
22 show very fine detail which, unfortunately, you can't see very
23 well from here.

24 These are what are known as positives. The dark is
25 x-ray-opaque sediment. Those are lead letters there that

1 attenuate the sediment. And you can use X-radiographs -- and
2 again, it's a very standard technique that we use in marine
3 geology and biology, and we use those to show us features
4 within the sediment on a very small scale. In particular, we
5 can see biogenic sedimentary structures, which Dr. Edwards
6 alluded to. These are burrows and tubes and feeding voids and
7 what have you. We can also see physical bedding if physical
8 bedding is present; that is, layering. And we can also see in
9 some cases shelled molluscs, like clams or snails.

10 What you see in the Palos Verdes Shelf
11 X-radiographs -- this is just an example, again. I think this
12 one is from 6C. I don't -- I can't read where these were, but
13 they are all in the sediments between about 50 and 70 meters.
14 What you see in all of them is just a pervasive biogenic
15 fabric. You don't see any physical bedding. And the reason is
16 that there is ongoing and extensive mixing of the seafloor.

17 Example of a burrow here is you can see this sort of
18 squiggly thing in here (indicating). We know that's a
19 burrow -- I know that's a burrow because it's -- in the middle,
20 you can see it's lighter. That means that it's most likely
21 filled with water, so water doesn't attenuate the x-rays as
22 much as the sediment. And it extends -- and this is where I

23 probably -- it extends for about 15 centimeters into the
24 seafloor.
25 15 centimeters is plus or minus six inches. My thumb

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1 is six inches. The bottom of this thing is about -- so, yeah,
2 it measures around 14 centimeters.

3 The other thing -- two others notes: One thing is
4 that, again, complete lack of physical bedding everywhere on
5 the shelf in these water depths. And also we see abundant
6 evidence of the shelled mollusc, the clam.

7 THE COURT: When you say "bedding," you are talking
8 about the stopping --

9 THE WITNESS: No. Bedding is -- when marine
10 sediments get deposited, they often do so during events like
11 floods or storms. So you will get a bed formed, which is just
12 a layer. There is a great example of it over by the criminal
13 courthouse of layering in rocks. It's the same thing. You get
14 layers in the mud.

15 THE COURT: I see.

16 THE WITNESS: But then the animals come through and
17 completely destroy all of that bedding. That's what we see
18 here. We don't see any bedding on the Palos Verdes Shelf. And
19 again, we see lots of bivalve molluscs, clams, lots of
20 gastropods extending throughout the sediment and in some cases,
21 clearly in life position; that is, living.
22 BY MR. KUSHNER:
23 Q. Now, Dr. Wheatcroft, do you have an opinion as to why we
24 see p,p'-DDE in the surface of the sediments on the Palos
25 Verdes margin?

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1 A. Yes, I do.

2 MR. WOLKOFF: Objection, Your Honor. Again, there is
3 nothing in his report about this.

4 MR. KUSHNER: Your Honor, he is an expert on bio- --

5 MR. WOLKOFF: Or his affidavit, for that matter.

6 MR. KUSHNER: Your Honor, this is a collective
7 effort. He's an expert on bioturbation. It disturbs
8 sediments.

9 The defendants have argued that the sediments are

10 from another source. We are arguing that they are not and --
11 or the contaminants are not. Dr. Wheatcroft has direct
12 evidence of what he believes as to the disturbance of the
13 sediments and how DDE at depth can get to the surface.

14 MR. WOLKOFF: Your Honor, they have known about this
15 issue themselves for 10 years. They wrote up these reports in
16 1994. They had an opportunity three years later to revise
17 them, Your Honor. They had the X-radiographs, themselves,
18 three years before that.

19 THE COURT: All right. Probably further on in
20 rebuttal.

21 MR. KUSHNER: Thank you, Your Honor.

22 BY MR. KUSHNER:

23 Q. Dr. Wheatcroft, based on the information you collected
24 regarding abundance of animals in the sediment and the thorium
25 234 data as well as the X-radiographs, do you have any opinions

1 regarding -- what's your ultimate opinion regarding
2 bioturbation on the Palos Verdes Shelf?

3 A. Well, that the Shelf sediments again, where I have looked
4 at them, are extensively mixed; that is, bioturbated by
5 animals. And they are bioturbated at a fairly rapid rate. And
6 I believe that that bioturbation extends for tens of
7 centimeters down into the seafloor and then that bioturbation,
8 as I said earlier, results in the vertical redistribution both
9 up and down of materials associated with the sediment.

10 Q. Now, Dr. Wheatcroft, just a couple of housekeeping
11 things. Let me direct your attention, if I could, to Figures 8
12 through 10 of Plaintiffs' Exhibit 3059. I believe it should be
13 in your binder.

14 A. Yes.

15 Q. What is that document?

16 A. These are profiles of the radioisotope thorium 234 that
17 were collected at Stations 502, 522 and 556.

18 Q. And who prepared those tables?

19 A. I did and Bill Martin, my colleague at Woods Hole
20 Oceanographic.

21 Q. And it's the data that you collected as part of this
22 investigation that's reflected in those tables?

23 A. Yes, it is.

24 MR. KUSHNER: Your Honor, at this time, we would
25 request that Figures 8 through 10 of Plaintiffs' Exhibit 3059

1 be received into evidence.

2 THE COURT: All right. Any objection?

3 Exhibit 3059 in evidence.

4 (Joint Exhibit 3059 received.)

5 MR. KUSHNER: Also at this time, we would request
6 that Dr. Wheatcroft's written testimony be received into
7 evidence.

8 MR. WOLKOFF: Your Honor, the objection about the
9 X-radiographs which you have already overruled, I want to note
10 it for the record.

11 MR. KUSHNER: I have nothing further of this witness
12 at this time.

13 THE COURT: In evidence.

14 Cross-examination.

15 MR. WOLKOFF: Your Honor, we have put together a
16 binder, Your Honor, of the documents that I intend to use on
17 cross-examination. It might be over-inclusive, but --

18 CROSS-EXAMINATION

19 BY MR. WOLKOFF:

20 Q. Now, Dr. Wheatcroft, looking at your report, Exhibit 3059,
21 in particular page 7 -- can we have that flashed up.
22 Could we please have those removed.
23 Page 7. You said, Mr. Wheatcroft, that the largest DDT
24 gradients occur down at 15 to 30 centimeters in the sediment
25 bed; correct?

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1 A. I don't believe I say "DDT." I say "contaminants."
2 Q. Yes. You say that "This is the region over which the
3 largest contaminant gradients occur"; correct, sir?
4 A. That's what it says, yes.
5 Q. And therefore, that was the area, for purposes of your
6 study, that you were most concerned with; correct, sir?
7 A. Yes.
8 Q. Now, the two stations at the Palos Verdes Shelf that you
9 were looking at in determining the depth of the bioturbation
10 for your report were Stations 522 and 556; correct?
11 A. Yes. We also looked at 502.
12 Q. But 502 is not on the Shelf. On the Shelf, you looked at

13 522 and 556; correct, sir?

14 A. 502 is on the Shelf. Let me -- it is.

15 Q. I don't want to quibble with you, sir. I asked you the

16 question at page 503 of your deposition.

17 Can we have his deposition transcript.

18 At page 503, line 10, the question was:

19 "And in fact, what you were analyzing in terms

20 of bioturbation dependency -- depth dependency

21 were stations 522 and 556; isn't that right,

22 sir? Those are the two stations you dealt with

23 in your report?"

24 And your answer was: "That's correct."

25 MR. KUSHNER: Are you referring him to a specific

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1 page, Mr. Wolkoff?

2 MR. WOLKOFF: Page 503, lines 10 through line 15.

3 BY MR. WOLKOFF:

4 Q. Do you see that, sir?

5 A. Not yet.

6 (Pause.)

7 BY MR. WOLKOFF:

8 Q. Did I read that correctly, sir?

9 A. Yeah, you read that piece fine.

10 Q. Okay. Now, both of those stations are USGS stations;

11 correct, sir?

12 A. Yes, they are.

13 Q. And they both -- as you testified on direct, they

14 correspond roughly with the LACSD Stations 3C and 6C; correct,

15 sir?

16 A. Yes.

17 Q. Now, actually, at Station 556, more than three-fourths of

18 the DDT is buried below 30 centimeters; isn't that correct,

19 sir?

20 MR. KUSHNER: Objection, Your Honor. No foundation.

21 THE COURT: The objection is sustained.

22 BY MR. WOLKOFF:

23 Q. You are aware, sir, that at Station 556, more than

24 three-fourths of the DDT is buried below 30 centimeters; isn't

25 that correct?

1 MR. KUSHNER: Objection, Your Honor.

2 THE COURT: Just a moment. The objection is
3 sustained.

4 BY MR. WOLKOFF:

5 Q. Well, you said, sir, in your report that you were most
6 interested in looking at where the gradient was at 15 to 30
7 centimeters. Do you know, sir, where most of the DDT is; that
8 is, more than 50 percent at Station 556, one of the two
9 stations you looked at -- how deep down?

10 A. No.

11 Q. Or at 522, sir?

12 A. No.

13 Q. Now, in your report and in your testimony, you talk about
14 getting data from the field of the Palos Verdes Shelf. These
15 are the coring data that you got; correct, sir?

16 A. Yeah. I just talked about coring data, yes.

17 Q. Now, you didn't have any coring data or field data that
18 would allow you to testify to this court that bioturbation
19 occurs below 20 centimeters; isn't that correct, sir?

20 A. No.

21 Q. Well, let me direct your attention to page 356 of your
22 deposition at lines 16 through 20.

23 A. Yes. Here we are talking about thorium 234.
24 Q. Sir, I asked you the question:
25 "Do you have any field data that allows you to

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1 opine to a reasonable degree of scientific
2 certainty that there is biodiffusive activity
3 below 20 centimeters?"
4 "Answer: No, I wouldn't say that we have."
5 Did I read that correctly, sir?
6 A. Yes. But again, we were talking about thorium 234.
7 Q. Sir, I asked you "any field data."
8 Now, you talked about this macrofauna data, sir; the
9 animals at depth. First of all, animals below 20 centimeters
10 were rare; isn't that correct, sir?
11 A. Yes.
12 Q. And isn't it so that you were not able to objectively
13 determine the depth of bioturbation at the Palos Verdes Shelf
14 using your macrofauna data?
15 A. Yes, I would say that is true.
16 Q. In fact, sir, let me flash up page 11 of your report.

17 Although you talk quite a bit about this macrofauna data --

18 Page 11, please.

19 THE COURT: Don't editorialize, counsel.

20 MR. WOLKOFF: Yes, Your Honor.

21 BY MR. WOLKOFF:

22 Q. You say in your report at page 11, quote:

23 "It is not possible to use our population level
24 macrofaunal data to predict community-wide
25 mixing rates and their depth dependency. Any

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1 attempts to do so at the present time are
2 suspect at best."

3 I read that correctly; isn't that right, sir?

4 A. You read that little piece correctly, yes.

5 Q. And what you did find with respect to your macrofaunal
6 data is 92 percent of the animals were in the top eight
7 centimeters of the sediment bed; correct?

8 A. I don't recall if that's the exact number, but the
9 majority are in the upper pieces of the sediment.

10 Q. Well, take a look, please, at your report on page 9 at the
11 very bottom.

12 A. Is my report up?

13 Q. 6139. It's in the binder that we gave you.

14 A. Yes. Thank you. What was the page again?

15 Q. Page 9. You say there at the very bottom that about
16 half --

17 "At Station 556, about half of the total
18 macrofauna were found in the upper two
19 centimeters and 92 percent were in the upper
20 eight centimeters and similar results were
21 obtained at Stations 552 and 502."

22 Correct, sir?

23 A. Right. Yes.

24 Q. And the LACSD gave you information reporting that 95
25 percent of the animals are in the top 10 centimeters; isn't

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1 that correct?

2 A. Yes, that's what was reported, yes.

3 Q. And so you couldn't use the macrofaunal data to

4 objectively determine the depth of the mixing; correct, sir?

5 A. I wouldn't agree with that statement.

6 Q. Well, looking at page 8 of your report -- do you have that
7 in front of you?

8 A. Yes, I do.

9 Q. In fact, you talk there not only about the macrofaunal
10 data, but you talk about the tracer data right in the first
11 carry-over paragraph on page 3, the third line. You say:

12 "It turns out that neither the tracer data, 234
13 thorium or lead 210, nor the macrofaunal data
14 can be used to objectively determine that the
15 depth functionality of the mixing rate."

16 Correct, sir.

17 MR. KUSHNER: Your Honor, I think that we are getting
18 well beyond the scope --

19 MR. WOLKOFF: No, Your Honor, this is very --

20 THE COURT: Let him finish, please, counsel.

21 MR. KUSHNER: I think we are getting beyond the scope
22 of the direct testimony of Dr. Wheatcroft. He is not offering
23 mixing rates, Your Honor. He is offering the mechanism and
24 showing direct evidence that bioturbation is occurring.

25 THE COURT: The objection is sustained.

1 BY MR. WOLKOFF:

2 Q. The words "depth functionality," sir -- you use that on
3 page 8 of your report in connection with the use of macrofaunal
4 data; correct, sir?

5 A. Yes. And would you like me to tell you what "depth
6 functionality" means?

7 Q. Well --

8 A. I think you are misunderstanding what that means.

9 Q. The fact of the matter is, sir -- let's move on to the
10 radionuclide data. That consisted of lead 210 and thorium 234;
11 correct?

12 A. Yes.

13 Q. Now, the lead 210 data -- you weren't able to determine
14 the depth of bioturbation using that data; correct, sir?

15 A. No.

16 THE COURT: No, that's not right?

17 THE WITNESS: I'm sorry. I was not able to use the
18 lead 210 to determine the depth functionality.

19 BY MR. WOLKOFF:

20 Q. And using the thorium 234 data, you were only able to make
21 calculations showing bioturbation down to 10 centimeters; isn't
22 that correct, sir?
23 A. Yes. That's what I just testified, yes.
24 Q. Now, you would agree, sir, that at some depth,
25 bioturbation ceases; isn't that right?

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1 A. Yes.
2 Q. And you have no objective data showing bioturbation occurs
3 below 10 centimeters at the Palos Verdes Shelf; isn't that
4 correct?
5 A. I don't agree with that.
6 Q. I would like you to turn to page 578 of your deposition.
7 (Pause.)
8 BY MR. WOLKOFF:
9 Q. At page 578, lines 19 to 25:
10 "Question: Sir, you used your objective data
11 of the 10 centimeters and then you had no
12 objective data, tracer data or macrofaunal data
13 below 10 centimeters upon which to objectively

14 determine the depth functionality of the mixing

15 rate; isn't that right, sir?

16 "Answer: That is correct."

17 I read that correctly, didn't I, sir?

18 A. Yes, you read that correctly.

19 Q. And your work here was done to -- was done to be included
20 in the larger report by Dr. Drake; isn't that correct, sir?

21 A. Yes, I think it was.

22 MR. KUSHNER: Your Honor, I'm going to object to any
23 questions about Dr. Drake. These defendants moved to exclude
24 his testimony from use by the plaintiffs and they should not be
25 permitted to use it in turn on their cross.

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1 MR. WOLKOFF: But, Your Honor, he was the person who
2 spearheaded this endeavor and he is an employee of the
3 government and, therefore, what he said to Dr. Wheatcroft back
4 and forth are admissions of the government.

5 MR. KUSHNER: Your Honor -- we don't agree with your
6 basic assumption. I would simply say it's got to work both

7 ways, Your Honor. There has got to be some reciprocity here.

8 THE COURT: The objection is sustained.

9 MR. WOLKOFF: Your Honor, may I make an offer of
10 proof?

11 THE COURT: You can make any offer of proof you
12 want. I can't stop you from doing it.

13 MR. WOLKOFF: Can we have flashed up on the board an
14 April 1994 letter. It's at tab 4 of the witness's outline.
15 It's Exhibit 19016.

16 THE COURT: That's your offer of proof?

17 MR. WOLKOFF: No, Your Honor. I would like to --

18 THE COURT: What's your offer of proof?

19 MR. WOLKOFF: Yes, Your Honor. At page 171 to 172,
20 this witness admits that this is a letter --

21 THE COURT: No, no. This witness -- that's not the
22 offer of proof. I want the offer of proof that you are
23 indicating with reference to Dr. Drake.

24 MR. WOLKOFF: Yes, Your Honor.

25 -- that he sent the letter in April of 1994 to

1 Dr. Wheatcroft in which he referred to Station 6C and he said
2 that the bioturbation at 6C is restricted to the surficial six
3 to 10 centimeters.

4 That's my offer of proof, Your Honor.

5 THE COURT: His testimony was excluded by the court.
6 That testimony was excluded by the court.

7 MR. WOLKOFF: No, Your Honor. No, Your Honor.

8 Dr. Drake -- this is not the testimony from Dr. Drake that was
9 excluded, Your Honor. Dr. Drake did an analysis of what would
10 occur on the Palos Verdes Shelf in the future. This letter was
11 not part of that testimony.

12 MR. KUSHNER: Your Honor, what was excluded was much
13 broader than Dr. Drake's testimony. It was all the work he had
14 done in connection with this investigation. That was what was
15 excluded.

16 THE COURT: Yes. All right. You made your offer of
17 proof. Let's keep to it.

18 BY MR. WOLKOFF:

19 Q. Now, Dr. Boudreau is someone who you cite at page 8 of
20 your report; is that correct, sir?

21 A. Yes.

22 Q. And he is someone who has done a lot of work on the depth
23 of bioturbation; isn't that right?

24 A. Yes, he has done some work on that issue. Not on the
25 Palos Verdes margin, though.

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1 Q. Are you familiar, sir, with this --

2 Can we flash -- it's on tab 5. If you could look at tab 5
3 in your volume before you, Dr. Wheatcroft.

4 Are you familiar with this recent paper of Dr. Boudreau's
5 on bioturbation extending down to 9.7 centimeters in the
6 sediment bed -- 9.87 centimeters in the sediment bed, where he
7 says:

8 "The activities and consequently the
9 bioturbational effects of deposit feeding
10 organism are largely restricted to a narrow
11 surficial zone of marine sediment with a
12 worldwide environmentally invariant mean of 9.8
13 centimeters."

14 Are you familiar with that, sir? That page?

15 A. I am familiar with the statement.

16 Q. And down below --

17 THE COURT: Does that say "plus or minus 4.5"? Is

18 that what you're reading.

19 MR. WOLKOFF: Yes. "With a standard" --

20 THE COURT: "Plus or minus 4.5"?

21 MR. WOLKOFF: "With a standard deviation of 4.5

22 centimeters."

23 BY MR. WOLKOFF:

24 Q. And right below it, he talks about a new simple model.

25 Quote:

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1 "A new simple model that accounts for the

2 feedback between resource food abundance, its

3 reactivity and the intensity of bioturbation

4 leads to a quantitative estimate of 9.7

5 centimeters."

6 Correct, sir?

7 MR. KUSHNER: Objection. I fail to see what

8 connection this could possibly have to the environment that we

9 are evaluating.

10 MR. WOLKOFF: This is worldwide, Your Honor. That's

11 what --

12 THE COURT: The objection is sustained. I can't
13 understand that because it then goes from something like 4 to
14 13 centimeters. 4.5 plus or minus.

15 BY MR. WOLKOFF:

16 Q. Well, are you familiar with other papers of Dr. Boudreau
17 in which he also concludes that --

18 Can we have that next paper flashed up.

19 MR. KUSHNER: Your Honor, I'm unaware of any
20 exception to the hearsay rule that applies to journal
21 articles. I understood it to be learned treatises, but not
22 journal articles. And we would object to this line of
23 questioning.

24 MR. WOLKOFF: Your Honor, it's cross-examination.

25 MR. KUSHNER: Well, he hasn't laid a foundation for

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1 impeachment, Your Honor.

2 THE COURT: The objection is sustained.

3 BY MR. WOLKOFF:

4 Q. You say nothing in your report about Dr. Boudreau's work
5 with respect to the bioturbation depth of 9.8, plus or minus
6 4.5 centimeters, do you, sir? Neither the 1998 paper --

7 A. My report was written in 1994.

8 Q. You don't refer to this paper in 1992 nor 1998, do you,
9 sir?

10 MR. KUSHNER: Objection, Your Honor --

11 MR. WOLKOFF: In your testimony, your affidavit --

12 THE COURT: That's not cross-examination of
13 anything -- impeachment of anything.

14 MR. KUSHNER: Well, in the document, Your Honor, it
15 also shows the copyright is 1994. There is no way to tell
16 whether or not it predated or postdated the report of
17 Dr. Wheatcroft.

18 THE COURT: This is not impeaching testimony --
19 impeaching any testimony of the witness given on direct
20 examination.

21 BY MR. WOLKOFF:

22 Q. In your testimony, sir, your affidavit, at page 7, line
23 26, you say that you made an qualitative survey of large
24 sea-dwelling animals during a July 1990 cruise and that you
25 found a thalassinid shrimp; correct?

1 A. Yes, amongst other things.

2 Q. Now, during this July 1990 cruise -- 1992 cruise you were
3 referring to, you took cores of three stations, 502, 522 and
4 556; correct?

5 A. The ones I'm speaking -- that I was speaking to in my
6 testimony, yeah. I think so. Right.

7 Q. And those three stations are all at the 60 meter water
8 depth; correct?

9 A. As we have gone over, roughly they're at 60 meters, yeah.

10 Q. And that's where you say you focused your attention;
11 correct?

12 A. Yes.

13 Q. In the cores from that July 1992 cruise, sir, you didn't
14 find any mud shrimp at those stations at 60 meters, did you,
15 sir?

16 A. I don't recall the depth of all the cores that were
17 analyzed.

18 Q. Let me direct your attention again to your deposition. At
19 page 631, lines 16 to 19:

20 "Sir, did you find any mud shrimp in any of the

21 cores taken at the 60 meter isobath during the
22 July 1992 cruise, even one?
23 "Answer: Not that I recollect."
24 Did I read that correctly, sir?
25 A. Yes.

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1 Q. And as I asked you on page 632, lines 11 to 15:
2 "Question: The fact of the matter is you don't
3 know if there are mud shrimp where the
4 contaminants are at 522 or 556; isn't that
5 right, sir?
6 "Answer: That's correct. We haven't collected
7 any there."
8 I read that correctly, didn't I, sir?
9 A. Yes.
10 Q. Now, you collaborated with Dr. Robert Eganhouse in
11 connection with this Palos Verdes Shelf Project; isn't that
12 right?
13 A. Dr. Eganhouse was part of the general research team, yes.

14 Q. You consider him a expert in geochemistry?

15 A. Organic chemistry, yes.

16 Q. You attended a meeting in which Dr. Eganhouse discussed

17 DDT measurements he made in the floor water at the Palos Verdes

18 Shelf; correct?

19 MR. KUSHNER: Your Honor, we're well beyond the scope

20 of --

21 THE COURT: The objection is sustained.

22 MR. WOLKOFF: Your Honor, may I make an offer of

23 proof?

24 THE COURT: Yes, you may.

25 MR. WOLKOFF: This witness is allowed to testify --

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1 THE COURT: I can't stop you to do that.

2 MR. WOLKOFF: Your Honor, I make the offer of proof

3 then from his deposition.

4 THE COURT: Whose deposition?

5 MR. WOLKOFF: This witness's deposition.

6 THE COURT: No, that's not the offer of proof of what

7 you want.

8 MR. WOLKOFF: The offer of proof I would make, Your
9 Honor, is that this witness reviewed data from Dr. Eganhouse
10 measuring the floor water in the sediment of the Palos Verdes
11 Shelf; that he drew a sketch of that data and that data showed
12 that the gradient was going from the top of the bed down to the
13 bottom of the bed; that is, the DDT was actually going down.

14 THE COURT: You are going to impeach his testimony?
15 That's not impeaching testimony --

16 MR. KUSHNER: And, Your Honor, we would strongly
17 object to the characterization --

18 THE COURT: -- of this witness's testimony on direct
19 examination.

20 MR. WOLKOFF: Well, Your Honor, it would show that it
21 is inconsistent. Dr. Eganhouse's data is inconsistent with
22 what this witness has testified to.

23 THE COURT: That doesn't make his testimony
24 impeachable.

25 MR. KUSHNER: We would also just note for the record,

1 Your Honor, our objection to the characterization.

2 THE COURT: The fact that Dr. Eganhouse doesn't agree
3 with him is a different problem totally.

4 BY MR. WOLKOFF:

5 Q. Dr. Wheatcroft, in your report, you talk about
6 sedimentation rates at the Palos Verdes Shelf; is that correct?

7 A. Yes.

8 Q. And your discussion begins at pages 2 to 6 -- your
9 discussion on that topic?

10 A. Yes.

11 Q. And the sedimentation rate, as you described at page 2 of
12 your report, that's the burial velocity rate at which sediment
13 is either added to or subtracted from the seafloor?

14 MR. KUSHNER: Your Honor, once again, we are well
15 beyond the scope of this witness's testimony. He offered
16 nothing with respect to the rate of sedimentation.

17 THE COURT: It's sustained.

18 MR. WOLKOFF: There were comments in his report that
19 were admitted into evidence.

20 THE COURT: It's sustained, counsel.

21 MR. WOLKOFF: Offer of proof, Your Honor, that this
22 witness in his report has determined that the burial rate of
23 the DDT at the Palos Verdes Shelf ranges between plus .4

24 centimeters to a plus 2 centimeters per year bearing the DDT at
25 the Palos Verdes Shelf.

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1 I have no further questions.

2 THE COURT: Has he said anything inconsistent with
3 that on his direct examination?

4 MR. KUSHNER: Pardon, Your Honor?

5 THE COURT: No. Has he said anything inconsistent
6 with that on his examination? The answer to that is no, so
7 it's not impeaching.

8 MR. KUSHNER: I just have one or two questions, Your
9 Honor.

10 REDIRECT EXAMINATION

11 BY MR. KUSHNER:

12 Q. Dr. Wheatcroft, just referring you again to the
13 X-radiographs that you discussed in your direct examination,
14 where were those X-radiographs collected?

15 MR. WOLKOFF: Objection, Your Honor. I asked nothing
16 about X-radiographs.

17 THE COURT: The objection is sustained.

18 BY MR. KUSHNER:

19 Q. Where were they collected?

20 MR. WOLKOFF: Objection, Your Honor.

21 MR. KUSHNER: I'm sorry, Your Honor.

22 I have nothing further, Your Honor.

23 THE COURT: All right. You may step down.

24 All right. 9:00 o'clock tomorrow morning.

25 MR. KUSHNER: Thank you, Your Honor.

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1 THE CLERK: All rise.

2 This court is now adjourned.

3 (Proceedings adjourned.)

4

5 I CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT
6 TRANSCRIPT FROM THE STENOGRAPHIC RECORD OF
7 PROCEEDINGS IN THE FOREGOING MATTER.

7

8 DEBORAH D. PARKER, CSR OCTOBER 19, 2000

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1 UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
3 WESTERN DIVISION
4 - - -
5 HONORABLE MANUEL L. REAL, JUDGE PRESIDING
6 - - -
7 UNITED STATES OF AMERICA, et al.,)
)
8 Plaintiffs,) NO. CV 90-3122-R
)
9 vs.)
)

10 MONTROSE CHEMICAL CORPORATION)
OF CALIFORNIA, et al.,)

11)
Defendants.)

12 _____)

13)
13 AND RELATED COUNTERCLAIMS,)
CROSS-CLAIMS AND THIRD-PARTY)

14 ACTIONS)

_____)

15

16

17

REPORTER'S TRANSCRIPT OF PROCEEDINGS

18

Los Angeles, California

19

Thursday, October 19, 2000

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1 LOS ANGELES, CALIFORNIA; THURSDAY, OCTOBER 19, 2000; 9:35 AM
2 THE CLERK: Item Number 1, CV 90-3122, United
3 States of America, et al. vs. Montrose Chemical, et al.
4 MR. McNULTY: Your Honor, first I have a couple of
5 housekeeping matters. First, the good news. Mr. Klotz with
6 the Department of Justice would like to tell you about the

7 settlement that we've reached and the stipulation.
8 THE COURT: All right.
9 MR. KLOTZ: Good morning, your Honor.
10 THE COURT: Good morning.
11 MR. KLOTZ: Bob Klotz for the United States.
12 This is following up on the announcement we made
13 at the very start of trial. We have now a fully executed
14 partial consent decree that resolves EPA past costs incurred
15 onshore, as well as DTSC's past costs onshore and specified
16 offshore costs. With that we have a stipulation between the
17 parties that lists the witnesses and exhibits that are no
18 longer needed in the trial because of the consent decree,
19 and also, most importantly, stipulates that EPA incurred
20 costs in the specified onshore areas. That's an element of
21 our case, and, of course, we didn't want the settlement to
22 deprive us of an element in the case.
23 So, if it pleases the Court, I can present these
24 to you now, and make a joint motion for entry of the consent
25 decree and approval of the stipulation.

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1 (Pause.)
2 MR. RAUSHENBUSH: Your Honor, Rich Raushenbush on
3 behalf of defendants. We join in the motion.
4 (Court reading documents)
5 THE COURT: All right. The partial consent decree
6 has been signed; the stipulations have been signed.
7 MR. KLOTZ: Thank you, your Honor.
8 THE COURT: You may proceed.
9 MR. KUSHNER: Your Honor, another procedural
10 matter. Yesterday you had struck the portions of E. John
11 List's testimony relating to the issue of biodegradation and
12 agricultural runoff. We've prepared an order with respect
13 to that, your Honor, if I may hand it to the Court.
14 THE COURT: Did you give it to the defendants?
15 MR. KUSHNER: I will provide copies to the
16 defendants as well.
17 An original and a copy.
18 (Pause.)
19 THE COURT: Any objection from the defendants?
20 MR. WOLKOFF: I'm almost through looking at it,
21 your Honor.
22 THE COURT: All right.
23 MR. WOLKOFF: Your Honor, it appears to embody
24 what your Honor ruled yesterday --

25 THE COURT: All right.

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1 MR. WOLKOFF: -- for which we would please note
2 our objection for the record. Otherwise, we move -- We
3 offer the testimony of Dr. John List and the other exhibits
4 that have been not been stricken.

5 THE COURT: The order is signed, and the testimony
6 of Dr. List, other than that stricken by the order, is in
7 evidence.

8 MR. KUSHNER: Your Honor, if you recall yesterday
9 we, per your order, put on the mass case.

10 THE COURT: Yes.

11 MR. KUSHNER: And, in turn, the defendants offered
12 Dr. List with respect to their views of the mass case. Most
13 of the other material -- in fact exclusively of all the
14 other material in his testimony relates to the fate of the
15 mass, what happens to it. We haven't put that on.

16 THE COURT: I understand that, and that's not --

17 MR. KUSHNER: You received into evidence his
18 testimony in its entirety, your Honor, and we would object
19 to that at this time.

20 THE COURT: It's taken for what it is worth.

21 MR. KUSHNER: Okay. Thank you, your Honor.

22 THE COURT: And with the consent decree, it seems
23 to me that this case ought to be settled. All right.

24 MR. KUSHNER: Your Honor, the United States calls
25 as its next witness Marlene Noble.

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1 THE CLERK: Come forward.

2 THE COURT: Before we do that, Mr. Raushenbush,
3 I'll give you the depositions which you've marked. Rather
4 than embarrass you, I'll ask you to read the sections that
5 you've delineated.

6 THE CLERK: Please raise your right hand.

7 MARLENE ANN NOBLE, PLAINTIFF'S WITNESS, SWORN

8 THE CLERK: Please be seated.

9 For the record, ma'am, would you please state your
10 full name and spell your last name.

11 THE WITNESS: Marlene Ann Noble, N-o-b-l-e.

12 MR. KUSHNER: Your Honor, perhaps before we begin
13 with the testimony of Dr. Noble we can resolve an issue
14 that's been raised by the defendants. They moved just two

15 days ago to strike a portion of Dr. Noble's testimony. In
16 particular, the defendants raise the issue of striking
17 paragraphs -- page 7, lines 7 through --
18 THE COURT: Wait a minute. Let me get it here.
19 MR. KUSHNER: Sorry, your Honor.
20 THE COURT: Page 7
21 MR. KUSHNER: Page 7. If you give me a brief
22 moment I'll turn to the defendants motion. Lines 7 through
23 17 on page 7; lines 25 through 26. And the position the
24 defendants have taken is that the opinions expressed on
25 those lines are opinions that Dr. Noble has not opined to

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1 previously.
2 Now, your Honor, her expert report -- and that
3 relates to offshore transport issues -- her expert report,
4 however, specifically refers to diagrams that show transport
5 from the shelf, data which indicates transport from the
6 shelf. And in fact -- and diagrams of the facts of the
7 defendants' experts indicating flow patterns across the
8 shelf.
9 In addition, the defendants have, during her two
10 long days of deposition, asked Dr. Noble numerous questions
11 about sediment transport and sediment resuspension. With
12 that, your Honor, we oppose the defendants' motion to strike
13 the testimony of Dr. Noble, and we would like your Honor's
14 ruling on that.
15 THE COURT: That motion is granted, and that
16 motion is denied.
17 DIRECT EXAMINATION
18 BY MR. KUSHNER:
19 Q. Dr. Noble, where are you currently employed
20 A. The United States Geological Survey.
21 Q. How long have you been employed there?
22 A. About twenty-four years.
23 Q. What is your position?
24 A. I'm a research oceanographer.
25 Q. And can you describe the nature of your work at the

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1 USGS.
2 A. Yes. I generally design and conduct research programs
3 that study the movement of water and associated suspended
4 materials along the Continental Margin.

5 Q. And specifically what role do you perform in connection
6 with these types of projects?
7 A. Normally my analytical role in the private sector, is
8 after I design the field arrays to actually determine
9 circulation patterns on the shelf and on the slope,
10 determine circulation patterns on the shelf and slope, try
11 and to determine why the patterns are the way they are and
12 specifically, you know, how large currents are for certain
13 windforcings and whether the patterns are altered when the
14 topography changes its shape.
15 Q. Dr. Noble, did you prepare testimony for this
16 proceeding?
17 A. Yes, I did.
18 Q. Would you please turn to the testimony in the notebook
19 that appears before you. I believe it would be the first
20 half.
21 A. Oh, it's right here, yeah. I have it.
22 Q. Is that the testimony you prepared?
23 A. Yes, it is.
24 Q. And it bears your signature?
25 A. Yes, it does.

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1 Q. What is the subject matter of your testimony?
2 A. This is a study on the circulation patterns and the
3 associated processes that transport materials and sediment
4 on the Palos Verdes Margin.
5 Q. And, Dr. Noble, are your qualification with respect to
6 making such opinions and determinations set forth in your
7 testimony?
8 A. Yes, they are.
9 Q. What is your area of expertise?
10 A. I specifically -- I tend to, as I say, I design field
11 programs that monitor processes that move currents in water
12 and suspended material along the Continental Margin.
13 Q. Would it be to call yourself an oceanographer?
14 A. Oh, yeah, I'm an oceanographer.
15 MR. KUSHNER: Your Honor, the United States and
16 the State of California request the Court recognize
17 Dr. Noble as an expert in the field of oceanography.
18 THE COURT: You may proceed.
19 BY MR. KUSHNER:
20 Q. Dr. Noble, how many programs have you participated in,
21 approximately?
22 A. I usually have one program, at least one program a year

23 for the last twenty-four years.

24 Q. And can you identify some of the projects that you
25 worked on?

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1 A. Well, recently we've had programs on the Central
2 California Shelf, specifically at Monterey, that for this
3 past couple of years trying to determine how sediments and
4 materials move along the Continental Margin there.

5 I've also been working with the EPA in a slope
6 area off San Francisco where they have a deep-water
7 dumpsite, and we were determining whether material from that
8 dumpsite or from the barges that deposit the material in
9 that dumpsite actually move into any of the associated
10 natural marine sanctuaries.

11 And, most recently, we've been working on the
12 Santa Monica -- in Santa Monica Bay trying to determine how
13 the processes, ocean processes affect the sediments in that
14 area and that project actually grew out of the Palos Verdes
15 project that we're talking about today.

16 Q. Now, when you refer to the Palos Verdes project, are
17 you referring to the project that Dr. Lee and the other USGS
18 people participated in on behalf of NOAA and the United
19 States?

20 A. Yes.

21 Q. And what was your role in that investigation?

22 A. My role was to design an array of moorings that would
23 help us determine how water and suspended materials move
24 along the Continental Margin.

25 Q. And how did you do that?

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1 A. I deployed an instrument of array.

2 Q. Let me direct your attention, if I could to -- it's
3 Number 42 -- a demonstrative -- and ask that you explain the
4 instrument in mooring to the Court.

5 A. Yes, your Honor. When we put -- when we try and
6 measure what's going out on the shelf, we tend to deploy
7 moorings like these (indicating), and they have surface
8 buoys, and they have a surface buoy at the water. Then they
9 have a cable that connects them to an anchor at the seabed,
10 so you span the whole water column.

11 And then we tend to attach instruments to these
12 cables that measure currents and properties of the water,

13 like temperature and salinity all the way at various depths
14 in the water column. Near-bed we tend to have an extra
15 package that not only measures the current, but it measures
16 the water clarity with a transmissometer, and this is an
17 instrument that shoots light out to a mirror in front of it,
18 and then the light comes back, and if there's material in
19 the water column, not enough light comes back, and so you
20 get a reduced light signal.

21 We tend to also have to have sediment traps that
22 catch material that's resuspended in the water column. And
23 in this particular array that's not noted here (indicating),
24 we tended to have the transmissometer and water clarity
25 instrument also up at mid-depth.

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1 Q. Now, during what period of time were the instrument and
2 moorings deployed on the Palos Verdes Margin?

3 A. The instrument and moorings we deployed from May of '92
4 through March of '93.

5 Q. Could you describe just generally where they were in
6 the margin.

7 A. If I could have the next demonstrative I can show you
8 where they were.

9 Q. Okay.

10 A. Your Honor, for this answer we're only going to talk
11 about this little section of the -- here's the Palos Verdes
12 Margin (indicating), and these, A, B, C and D, are the
13 instruments, and this is the White's Point Outfall. And we
14 tried to design an array that kind of looked both along and
15 swept something along the Palos Verdes Peninsula, and that
16 also was happening across. So we put moorings A in 30
17 meters; B is in 60 meters near site 6C; D is in 60 meters,
18 but much closer to the end of the peninsula; and C is a
19 slope mooring at about 200 meters.

20 And these instruments were out -- we had to deploy
21 instruments -- They only can go out for about four months --
22 so portions of this array were out for that whole time,
23 but -- I mean sometimes we only had these out, but during
24 the winter season we had the whole array out, and that's the
25 energetic season for the shelf.

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1 Q. But, Dr. Noble, based upon your investigation and your
2 experience in oceanography have you developed an opinion

3 regarding the currents and the movement of sediment on the
4 Palos Verdes Margin?

5 A. Yes.

6 Q. And what are those opinions?

7 A. That the water tends to flow and any suspended material
8 tends to flow toward the northwest on the Palos Verdes
9 Peninsula. And because this flow is so pervasively toward
10 northwest, it's very seldom you'd ever get flow coming back
11 this way. It would almost always go that way. And because
12 the -- for several reasons, because the peninsula narrows
13 because there's these sharp bends and things, water also
14 tends to go offshore in this region (indicating).

15 Q. And when you said "this way and that way," you were
16 referring --

17 A. I'm sorry. To the northwest, and very seldom does
18 water -- does the current go to the southeast.

19 Q. Now, upon what do you base these conclusions?

20 A. On our measurements and on our historical understanding
21 of what's going on in this area on our measurements, on
22 measurements of my colleagues, on wave data that we have
23 collected from offshore buoys in this area, and my general
24 understanding of ocean processes.

25 Q. Now, using the demonstrative that's before you can you

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1 describe for the Court generally what the flow pattern looks
2 like.

3 A. Yeah. Most -- the reason we had to do this program in
4 the first place, your Honor, is that very little is known
5 about this tiny area, the shelf. What we do know is if you
6 look at this whole Southern California Bight area, is a lot
7 of what goes on in the slope and the other offshore systems.
8 This is Catalina -- not Catalina -- this is the Channel
9 Islands; here's Santa Barbara, and we're going down towards
10 San Diego this way and from -- along the slope from the
11 south, currents come up along the slope pointing toward the
12 north (indicating). They tend to split going into the Santa
13 Barbara Channel and some of them comes out and joins the
14 California Current System. This is really just the inshore
15 edge of the California Current System because that's a very
16 broad flow that goes all the way out here.

17 And some of the California Current System water
18 leaks back into the Southern California Bight, so you tend
19 to have a little bit of a gyre circulation and some material
20 just goes all the way through.

21 Q. Now, were any of your deployments located in the area
22 of what we've been referring and hearing about as 6C or the
23 60 meter isobath?
24 A. Yeah. This is near site 6C. That's station B, and
25 station B is on the 60 meter isobath that just displaced to

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1 the the northwest (indicating).
2 Q. Let me direct your attention, if I could, to the next
3 demonstrative.
4 Can you describe these funny little lines to the
5 Court?
6 A. Yeah. This is -- this is one way of depicting current
7 flow (indicating).
8 THE COURT: More spaghetti?
9 THE WITNESS: More spaghetti, yeah. Only they get
10 to lean a little bit.
11 One way that we depict current flow is to try and
12 make a line that shows you the direction and amplitude of
13 the current, so the bigger the line the stronger the current
14 is, and which direction the line goes it tells you the
15 direction the current's going in.
16 What I've done here is I've plotted the current so
17 that if the line is straight up it means it's going straight
18 along the peninsula toward the northwest. If it's straight
19 down, it's going along the peninsula towards the southeast.
20 If it veers kind of off this way (indicating), it means it's
21 going offshore, and if it veers this way it means it's going
22 onshore.
23 And what we've plotted here are (indicating) --
24 here's site D, which is this northern 60 meter site. Site
25 C, which is at 50 meters is the slope here; site B, which is

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1 at 30 meters; the site B near the bed and site A near the
2 bed (indicating). And so we've got all the -- and this is
3 May through February, March.
4 And so you can see the dominant flow all the lines
5 go up. You don't see very many lines going back, which
6 means that for almost the whole time currents are
7 pervasively just going toward the northwest.
8 And the other thing you see up toward D here, you
9 see a lot of arrows kind of leaning this way, meaning that
10 flows going offshore, and, in fact, if you look at some of

11 the mean flows at D, especially in the midwater column, the
12 mean flow is statistically significantly offshore in that
13 area.
14 BY MR. KUSHNER:
15 Q. What does "mean flow" mean?
16 A. Mean flow means the average flow over the whole time we
17 had the moorings out.
18 Q. Dr. Noble, let me request that you turn to the tab in
19 your notebook that is identified as Appendix H1-A,
20 Plaintiffs' Exhibit 3013.
21 A. Right.
22 Q. And I believe those documents are references --
23 Plaintiff's Exhibit 3013, Appendix H1-A through F, and H2-A
24 through G, would you confirm that that information is in the
25 notebook, please.

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1 A. H1-A through F?
2 Q. Yeah. And H2-A through G.
3 A. H1A through F and H1A through G, yeah, it looks like
4 that's here. Yes.
5 Q. What is that information?
6 A. These are just depictions or graphs and a few tables of
7 all the data we took in the year of our deployment.
8 Q. Did you collect that data yourself or supervise its
9 collection?
10 A. Yes, I did.
11 Q. And did you assemble the data, tables of data and the
12 figures that appear in those appendices?
13 A. I supervised most of the figures and tables.
14 Q. And, once again, these are the data that were obtained
15 from your study.
16 A. Yes, they are.
17 MR. KUSHNER: Your Honor, at this time we would
18 that request that Plaintiffs' Exhibit 3013, Appendix H1-A
19 through F, and H2-A through G be received into evidence.
20 THE COURT: Any objection?
21 MR. LYTZ: Objection, your Honor, as to the entry
22 of the information, your Honor, without some support. That
23 was the subject of prior discussion.
24 THE COURT: The objection is overruled. 3013,
25 H1-A and 3013, Appendix H2-A in evidence.

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1 (Trial Exhibits 3013, Appendix H1-A through F,
2 H2-A through G received.)
3 BY MR. KUSHNER:
4 Q. Now, Dr. Noble, did you also evaluate wave information
5 for the period of time when your instrument and moorings
6 were deployed?
7 A. Yes, I did.
8 Q. And what information did evaluate?
9 A. We evaluated a sort of a record of waves that
10 originated with the offshore buoy, but was calibrated to be
11 at the 60 meter isobath on the Palos Verdes Peninsula.
12 Q. Okay. Let me direct your attention, if I could, to the
13 next demonstrative.
14 Could you please describe for the Court what the
15 wave data shows you.
16 A. Yes. Your Honor, this is a histogram of the number of
17 waves with certain near-bottom orbital velocities on the 60
18 meter isobath of the Palos Verdes Peninsula, and this is the
19 full year. And you can see over the year we get waves with
20 speeds up to 20 centimeters a second (indicating). We have
21 like 2600 waves with speeds between 5 and 10 centimeters per
22 second near the bed. And when these waves occur, the big
23 ones that we're more interested in, is normally in the
24 wintertime. So you can see in the winter we have, speeds
25 of, you know, 15, 20 centimeters, 25 centimeters second near

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1 the bed. And in the summer there is a much more calm
2 period.
3 The other thing I did with this wave data was to
4 try and figure out if, when we have these large waves which
5 we're interested in, because they tend to be the things that
6 resuspend material, is there are a certain flow pattern
7 associated with those waves, and it turns out that the flow
8 patterns are totally independent of when the waves arrive
9 and when they don't arrive.
10 Q. For just one point of clarification, what is a
11 histogram?
12 A. A histogram is a count. So between the near-bottom
13 wave orbital velocity is between like 4 -- 4, 5, 6, 7
14 centimeters a second; in the winter we had about 1500 of
15 them occur. We had something less than 200 where the wave
16 speeds were more than 14 centimeters a second.
17 Q. What's the significance of the waves and the currents
18 not being coupled?

19 A. This means that when the waves come and they pick up
20 material or if they pick up material they'll go into the
21 flow pattern that's typical for the region. So that on
22 average the material will move in the same direction as our
23 general flow fields move.
24 Q. Now, Dr. Noble, what other information have you
25 evaluated that indicates to you in your opinion that the

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1 currents in the Palos Verdes Shelf have a prevailing trend
2 to the northwest?
3 A. Actually information gathered by my colleagues,
4 specifically the group that was working with Dr. Homa Lee.
5 Q. Let me direct your attention to the next demonstrative.
6 What does this show you?
7 A. Your Honor, this is a diagram I think you've seen
8 before. I think this is the DDT on this Palos Verdes Shelf,
9 and you'll notice -- and here's the White's Point Outfall
10 (indicating), and you'll notice that all, most of the
11 deposit trends toward the northwest, and you have not much
12 going in this direction (indicating).
13 And these are the mean flows, which are the
14 average near flows measured by the current meters over the
15 current year of record (indicating). And the solid lines
16 are the near-bed currents, and the dotted lines are the
17 mid-depth currents. And you see all the mean flows go
18 toward the northwest.
19 You can see a little bit of offshore in this
20 region (indicating), it looks like. So that means that
21 that's totally consistent. If anything gets picked up, it
22 goes with the mean flow and moves that way. And there's a
23 little bit down here (indicating), but almost nothing goes
24 in the other direction.
25 Q. Now, Dr. Noble, what other information do you have that

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1 sediments are resuspended on the Palos Verdes Margin?
2 A. We have information on the water clarity.
3 Q. And what does that tell you?
4 A. That tells you when the water is clear there's not much
5 in the water column, and when sediments get picked up, as I
6 said, the transmissometer is a light instrument, and when
7 sediments get picked up and get in the path of the light, it
8 scatters light out of the transmissometer pathway, and so

9 the signal drops. I have a --
10 Q. Let me direct your attention to the demonstrative that
11 says "Transmissometer" on it.
12 MR. LYTZ: Your Honor, we object to this evidence.
13 This is evidence that was developed by the stricken experts.
14 Doctor --
15 THE WITNESS: No, it was not developed by the
16 stricken experts.
17 MR. KUSHNER: No, this is evidence actually, your
18 Honor, that you just received into evidence that appears in
19 Dr. Noble's expert report.
20 THE COURT: The objection is overruled.
21 THE WITNESS: Thank you, your Honor.
22 THE COURT: No, don't thank me. I don't do any
23 favors for anybody.
24 (Laughter.)
25 THE WITNESS: As I said, the transmissometers that

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1 I put on my moorings, they shoot light out, and if there's
2 nothing in the water column, then the light all comes back,
3 and you get a high reading like this (indicating). And if
4 there's things in the water column, you get a low reading,
5 and things drop like here (indicating).
6 These are transmissometers that were placed near
7 the bed, both at site B and site D (indicating).
8 BY MR. KUSHNER:
9 Q. Once again, where are site B and site D?
10 A. Site B is at site 60 and site D in the 60 meter isobath
11 that's northwest along the peninsula. You'll see a general
12 trend here on this (indicating). That's because things grow
13 on your instruments, and as things grow on the lenses, your
14 light can't get out any more, and you don't get them.
15 But if you look at especially site D here, you'll
16 see some large events before the instruments got fouled, and
17 these indicate that material was being suspended in the
18 water column to a fair amount (indicating).
19 And though it's not shown here, if you look in my
20 expert report, you'll see that this strong peak that we see
21 near the bed here and here (indicating) do not appear in the
22 middle of the water column so that says that whatever
23 material is in the water column it's concentrated near the
24 bed, and it's not up in the middle of the water column.
25 Q. Now, once again, Dr. Noble, based on all this

1 information and the data as far as the Palos Verdes
2 investigation and your experience, what are your opinions
3 with respect to the current flow and sediment transport on
4 the Palos Verdes Shelf?
5 A. Well, the water and associated suspended materials move
6 toward the northwest. They go towards Santa Monica Bay
7 rather than from Santa Monica Bay, and that water also
8 comes -- and the suspended material also tends to move off
9 the shelf onto the flow, especially in the northern part of
10 the peninsula.

11 MR. KUSHNER: Your Honor, at this time we would
12 request that Plaintiffs' Exhibit 3013, Appendix H1-A through
13 F, and H2-A through G, as well as the written testimony of
14 Dr. Noble be received into evidence.

15 THE COURT: In evidence.

16 (Previously received.)

17 MR. KUSHNER: We have nothing further at this
18 time, your Honor.

19 THE COURT: Cross-examination?

20 CROSS-EXAMINATION

21 BY MR. LYTZ:

22 Q. Dr. Noble, you were part of a predicted modeling scheme
23 that, among other things, was analyzing whether or not DDE
24 contaminated sediments from the Palos Verdes Shelf were
25 moved to other locations; correct?

1 MR. KUSHNER: Objection, your Honor. This is
2 exactly the information that we discussed yesterday. To the
3 extent that these questions are about to get in the stricken
4 work of Dr. Drake and his colleagues with respect to
5 predicted modeling, this line of questioning would be
6 inappropriate.

7 MR. LYTZ: I'm not going there, your Honor.

8 THE COURT: All right. Overruled.

9 THE WITNESS: In a general sense, I would say I
10 was perhaps a part of that predicted modeling team, but I
11 wasn't really because I didn't do any of the modeling, and
12 all I did was put measurements out; so as Homa Lee had all
13 the geology, there was another group that was doing other
14 stuff, but my work wasn't related to that.

15 BY MR. LYTZ:

16 Q. Your job was to characterize the currents that existed

17 on the shelf.
18 A. My job was to characterize the current.
19 Q. But you weren't yourself responsible for determining
20 whether or not sediments were transported, were you?
21 A. I was responsible for designing the arrays and
22 providing the information that would help people determine
23 whether sediments was being transported, but my particular
24 role in this, the analytic role in this exercise was not to
25 determine if things got picked up from the bed.

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1 Q. Nor was it your job to determine whether materials that
2 were picked up from the bed were transported somewhere else.
3 A. Well, it was in a sense that I was supposed to
4 determine which way the currents were going and whether the
5 waves were related to the current pattern so that we could
6 determine if things got picked up, how the suspended
7 material would actually move on this shelf. So that was one
8 of my roles in the exercise.
9 MR. LYTZ: Your Honor, from Dr. Noble's
10 deposition.
11 "Question: You were the person responsible for
12 determining whether currents were a primary factor in moving
13 sediments; isn't that right?"
14 THE COURT: This is not impeachment. I don't know
15 what it is that you all are doing. This is not impeachment.
16 She just testified to that, exactly that evidence.
17 MR. KUSHNER: Thank you, your Honor. It's also
18 there's plenty of references in the deposition to questions
19 asked by this counsel about the suspension of sediments.
20 BY MR. LYTZ:
21 Q. Dr. Noble, could I ask you to look at page 7 of your
22 affidavit, please.
23 A. I have 7.
24 Q. At line 7, and in the paragraph from 7 to 17, you wrote
25 that suspended sediments may be transported toward the

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1 Redondo Canyon. Could you point out the Redondo Canyon on
2 the overhead to the Court, please.
3 A. There (indicating).
4 Q. Right there. Now, is it your opinion that suspended
5 sediments from the shelf have in fact come to be located in
6 the Redondo Canyon?

7 A. I have no direct evidence that suspended sediments are
8 located Redondo Canyon, but my understanding that I think
9 the current flow, a lot of it comes around a little bit, and
10 goes over the canyon, because if there were suspended
11 materials they could fall out and go into the canyon.
12 Q. The currents go that, but you don't have any evidence
13 that sediments in fact have gotten into the Redondo Canyon,
14 do you?
15 A. If there was suspended material in those currents they
16 could fall into the canyon, and I know from other things
17 that this is a pretty sediment-scarred area.
18 Q. That's a hypothesis. I'm just asking, do you have any
19 evidence, Doctor, that sediments from the Palos Verdes
20 Shelf --
21 A. I did not measure any sediments in the canyon.
22 Q. So you don't have any evidence that that's happened, do
23 you?
24 A. No, no direct evidence.
25 Q. Thank you. You also write there that sediments, in the

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1 same paragraph, that sediments may be transported to the
2 Santa Monica Shelf. Could you point that out for the Court?
3 A. (Indicating.)
4 Q. Dr. Noble do you have any evidence that sediments from
5 the Palos Verdes Shelf have in fact been transported to the
6 Santa Monica Shelf?
7 A. Well, it's very consistent that they would be
8 transported to the Palos Verdes Shelf because we have the
9 mean evidence that I showed in my demonstrative that things
10 are being moved this way, and typical current patterns would
11 move things in that direction because all the currents are
12 going to the northwest. A lot of them move down the shelf,
13 but some of them come off, and if there's suspended material
14 in those currents, it's going to go there.
15 Q. That's a hypothesis again, isn't it, Doctor?
16 A. Well, it's an opinion. It's not much of a hypothesis.
17 Q. Well, what is the evidence that you have that sediments
18 from the Palos Verdes Shelf have in fact come to be located
19 on the Santa Monica Shelf?
20 A. The only -- I suppose you could say evidence -- is they
21 come through the sediment. They are resuspended and stay in
22 the water column. It would take -- For current velocities I
23 have, it would take not very long, less than a day, I think,
24 day or two, for currents to move that direction, so --

25 MR. KUSHNER: Your Honor, I don't know where we're

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1 going with this. If the line of questioning is directed to
2 tracing a single molecule from the Palos Verdes Shelf
3 elsewhere, then --

4 THE COURT: It doesn't need an expert opinion.
5 It's just logical, just logic, pure, pure ordinary logic.

6 MR. LYTZ: Thank you, your Honor. Yes, your
7 Honor. The point is is this testimony helping you determine
8 whether or not any sediments from the Palos Verdes Shelf
9 have in fact been transported --

10 THE COURT: Oh, it is logical, and I can make that
11 determination.

12 BY MR. LYTZ:

13 Q. Is the same true, the case with respect to the San
14 Pedro Basin?

15 MR. KUSHNER: Same objection, your Honor.

16 THE COURT: The objection is sustained.

17 MR. LYTZ: Thank you, your Honor. We have no
18 further questions.

19 THE WITNESS: Thank you, your Honor.

20 THE COURT: You don't have to thank me either.

21 MR. KUSHNER: We don't have any redirect.

22 THE COURT: You may step down.

23 Call your next witness.

24 MS. HURLEY: Your Honor, plaintiffs would like to
25 call as our next witness Dr. John Connolly.

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1 THE CLERK: Please raise your right hand.

2 JOHN PATRICK CONNOLLY, PLAINTIFF'S WITNESS, SWORN

3 THE CLERK: Please be seated.

4 For the record, sir, would you please state your
5 full name and spell your last name.

6 THE WITNESS: John Patrick Connolly,
7 C-o-n-n-o-l-l-y.

8 MR. WOLKOFF: Briefly, your Honor -- Harvey
9 Wolkoff -- I understood that after the fate portion of the
10 Government's case we would be calling our witnesses on the
11 fate portion of the Government's case in that phase. Is
12 that not so? I just want a clarification.

13 THE COURT: On which phase again?

14 MR. WOLKOFF: I was under the understanding that

15 with respect to the fate portion, that is happenings to the
16 DDT at the Palos Verdes Shelf, that after the last witness,
17 Dr. Noble, that defendants would be calling their witness or
18 witnesses on the fate portion or phase of the case, and I
19 want clarification, if I may, your Honor, please, as to what
20 the status is of that.

21 MR. McNULTY: Your Honor, you never mentioned that
22 first of all. Second of all, I think logically it makes
23 sense for us to proceed through this entire pathway part of
24 the case before. If you want to split it at a logical
25 place, the place would be after the pathway.

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1 THE COURT: Yes, after it gets to where it is or
2 where it is going.

3 MR. ALLEN: Excuse me, your Honor. One other
4 matter.

5 THE COURT: All right.

6 MR. ALLEN: In connection with the testimony of
7 Dr. Connolly -- for the record, my name is Jose Allen --
8 your Honor, we have lodged an objection to Dr. Connolly's
9 direct testimony and have submitted a memorandum in support
10 thereof on Tuesday.

11 Essentially Dr. Connolly testifies in his direct
12 testimony to a number of new areas that were outside the
13 scope of the areas for which he was designated to testify as
14 an expert witness in his report, and covers entirely new
15 subject matter that was never previously addressed in his
16 report. So, on that basis, we would object to that
17 testimony in its entirety, your Honor.

18 MS. HURLEY: Your Honor, if I may, I'd like the
19 opportunity to respond to the objections since counsel has
20 put a number of things in that objection that I believe need
21 responding to. We haven't had the opportunity to do it in
22 writing because we just did get on it Tuesday, and we have
23 been in court ever since then, but I would like to respond.

24 There are actually several different points.
25 Doctor -- excuse me -- Mr. Allen actually mentioned two of

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1 them. There's another one that I'd like to respond to as
2 well. In this objection --

3 THE COURT: No, let's take what's on the table
4 now.

5 MS. HURLEY: Well, this is in --
6 THE COURT: Let's not move things around.
7 MS. HURLEY: Excuse me. This is in Mr. Allen's
8 objection. I'm responding to Mr. Allen's objection.
9 THE COURT: Go ahead.
10 MS. HURLEY: And in here he's indicated -- and
11 this is a quote from the objection -- "Plaintiffs have
12 attempted to evade the Court's order by including in the
13 testimony of John P. Connolly topics that were not part of
14 his expert report, but instead were in the expert report
15 stricken by the Court on June 26, 2000."
16 And again, Doctor -- Mr. Allen states in his
17 objections in this Court's order regarding sanctions entered
18 on July 5, 2000, "The Court struck many of the plaintiffs'
19 fate and transport experts. Plaintiffs have attempted to
20 patch this now glaring hole in their case by converting
21 Connolly into an expert in the area in which he has no
22 expertise to opine upon matters not contained in his
23 report."
24 What I'd like to do first, your Honor, is --
25 because I can't tell which expert reports Mr. Allen is

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1 referring to in those statements, I'd like to ask Mr. Allen
2 which expert reports he's referring to so I can address that
3 specific issue.
4 MR. ALLEN: Your Honor, a couple of things. First
5 of all, we filed the objections to Mr. Connolly's testimony
6 with the Court on Tuesday. However, your Honor, as a
7 courtesy to the plaintiffs, we actually served them on
8 Friday with our objections.
9 Now, your Honor, the fundamental basis for our
10 objection to Dr. Connolly's testimony is that at his
11 deposition which I took, I repeatedly asked Dr. Connolly as
12 to whether other sources of contamination were at all
13 relevant to the work that he had done in this case, and time
14 after time Dr. Connolly indicated that that work -- that
15 other sources and the impact of other sources were not
16 relevant to the modeling exercise that he undertook. And I
17 have specific references in the transcript. Page --
18 MS. HURLEY: Excuse me, your Honor, if I may --
19 THE COURT: Just let him finish, please.
20 MS. HURLEY: Excuse me, sir.
21 MR. ALLEN: Your Honor, at page 193 of
22 Dr. Connolly's testimony I asked him,

23 "It didn't matter to you that there was no
24 sediment source apparent in Northern California that could
25 be contributing to the high concentration in mussels.

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1 "Answer: It wasn't relevant to our analysis."
2 I later asked him, now was it important for
3 purposes of your model to know there were other sources
4 other than sediments on the Palos Verdes Shelf that could be
5 significant contributors to water column concentrations?
6 "Answer: No.
7 "Question: It's not important at all?
8 "No.
9 "It's not relevant to your food question. It's
10 not relevant to your food web pathway analysis?
11 "No. That was outside of our scope."
12 "Question: You answered a different question. It
13 wasn't a question of whether it was out of your scope and
14 what was within your scope of work. My question was whether
15 it was important to you know to know that information for
16 purposes of your model.
17 "Answer: No, it was not."
18 Again, your Honor, over on page 253 of Connolly's
19 depositions at lines 11 through 16.
20 "Dr. Connolly, during your testimony yesterday you
21 indicated that the issue of the contribution of other
22 sources was not relevant to your modeling exercise on behalf
23 of NOAA; is that correct?
24 "Answer: Yes."
25 If we move over to page 258, line 1 through 3 of

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1 Dr. Connolly's deposition testimony, I asked him again.
2 "So the question of potential contribution of
3 other sources is something that was relevant -- that was
4 relevant to your modeling exercise, wasn't it?"
5 After a very long colloquy on the record through
6 the transcript we got back to the question.
7 "Well, was it relevant, or was it not relevant?
8 "Answer: No.
9 "It wasn't relevant at all?
10 "Answer: No."
11 Your Honor, I can go on and on for pages --
12 THE COURT: Those appear all to be questions of

13 the weight. Let's get to it, and she'll have to lay
14 foundations for things.
15 DIRECT EXAMINATION
16 BY MS. HURLEY:
17 Q. Dr. Connolly, what's your current occupation?
18 A. I'm an environmental consultant with a firm called
19 Quantitative Environmental Analysis, also known as QEA.
20 Q. And are you currently the president of that
21 corporation?
22 A. Yes, I am.
23 Q. What was your prior occupation?
24 A. Prior to that I was a partner in another firm,
25 HydroQual, and a factual member at Manhattan College.

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1 Q. Would you turn to the testimony that's in the front of
2 your witness binder.
3 A. I have it.
4 Q. Would you take a look at it, please, Dr. Connolly.
5 A. Yes.
6 Q. Do you recognize this testimony?
7 A. I do.
8 Q. Would you look on the last page and see whether your
9 signature is there?
10 A. Yes, it is.
11 Q. Is this signed under penalty of perjury?
12 A. Yes, it is.
13 Q. Would you also look at the errata sheet that follows
14 that testimony.
15 A. I have it.
16 Q. Are these errata that were prepared by you?
17 A. Yes.
18 Q. And is this your signature on the last page?
19 A. It is.
20 Q. This was also signed under penalty of perjury?
21 A. Yes.
22 Q. Are your qualifications set forth on the first page of
23 your testimony, Dr. Connolly?
24 A. Yes, on page 1.
25 Q. If you could also look at, in your binder, Plaintiffs

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1 Trial Exhibit 3675.
2 A. Yes.

3 Q. Is that a true and accurate copy of your curriculum
4 vitae that's referenced in your testimony?
5 A. Yes, it is.
6 Q. Dr. Connolly, could you briefly summarize your
7 qualifications.
8 A. I began working on contaminated sediment problems with
9 my Ph.D. research, which I conducted in the late 1970's, and
10 that research was directed to studying the absorption of
11 pesticides to sediments and the effect of that absorption to
12 sediments on the movement of pesticides between sediments
13 and water.
14 After I finished my Ph.D. I continued doing
15 research, and that research was involved with looking at the
16 fate of pesticides and other contaminants, including PCB's
17 in various surface water systems, and I began a
18 collaboration with another faculty member at Manhattan
19 College studying bioaccumulation of contaminants in aquatic
20 food webs and have been involved in both areas since 1980.
21 Over that period I have worked on numerous
22 projects. The work has involved laboratory and field
23 experimentation data analysis and interpretation, and
24 mathematical modeling. It's been directed to evaluating
25 sources of contaminants to the environment trying to sort

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1 out sources in some cases, and to looking at the movement
2 and fate of contaminants in the environment and their
3 accumulation through aquatic food webs.
4 Q. Dr. Connolly, have you written any peer review papers
5 on the topics of source identification, contaminant
6 transport and bioaccumulation?
7 A. I have.
8 Q. Approximately how many?
9 A. Something on the order of a little less than twenty
10 peer review articles, and six or seven book chapters.
11 Q. Dr. Connolly, have you testified in court before?
12 A. On one other occasion.
13 Q. Were you qualified by the court as an expert witness?
14 A. I was.
15 Q. Would you describe what you did in that particular
16 testimony.
17 A. That testimony was a case in which a PRP group for a
18 CERCLA site had sued Eaton Corporation, another corporation,
19 to bring them in as a PRP, and my role was to evaluate
20 whether in fact, Eaton was a significant source of PCB's to

21 the Kalamazoo River.
22 MS. HURLEY: Your Honor, at this time the
23 plaintiffs' request that Dr. Connolly be qualified as an
24 expert in the areas of source identification, contaminant
25 transport and bioaccumulation.

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1 THE COURT: You may proceed.
2 BY MS. HURLEY:
3 Q. Dr. Connolly, what you were asked to do in connection
4 with this case?
5 A. I was asked to evaluate the hypothesis that the White's
6 Point Outfall source was the principal source of the DDT
7 found in various animal species in the Southern California
8 Bight.
9 Q. How did you go about doing this?
10 A. We conducted a geographical analysis looking at the
11 spatial patterns of DDT in surface sediments in mussels and
12 in fish to look for significant sources, and to look for the
13 area over which those sources predominated.
14 In addition, I and my colleagues developed
15 mathematical models of bioaccumulation, the purpose of which
16 were to estimate given concentrations of DDT in various
17 animals; what were the concentrations to which they were
18 exposed. And using both that spatial analysis of
19 concentrations in the environment and the results of the
20 modeling, as well as in understanding of the pathways by
21 which DDT moves through the environment, to make a
22 determination whether or not the White's Point Outfall
23 source was the likely source of the DDT in those animals.
24 Q. Dr. Connolly, can you describe the pathways by which
25 contaminants, such as DDT, move from sediments in water to

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1 biodefect, just generally?
2 A. Yes.
3 MS. HURLEY: If we could have a demonstrative at
4 this point.
5 And, your Honor, just for your convenience we've
6 placed copies of the demonstratives at the back of your
7 notebook. For some of them it's difficult to see the
8 individual data points. This would be the demonstrative
9 that would be at the tab marked 83.
10 BY MS. HURLEY:

11 Q. Dr. Connolly, if you could then describe the pathway I
12 asked earlier.

13 A. Certainly. DDT that enters the system, the system
14 being the Southern California Bight, because of absorption
15 will become partially associated with organic matter in the
16 water; it may also enter the system in part associated with
17 organic matter.

18 The other component that's in the system after it
19 enters is dissolved so that the DDT in the water column of
20 the Southern California Bight is either absorbed through
21 organic matter or dissolved in the water column. This is an
22 important concept that it's absorbed through organic matter
23 because to this point sitting here there's been a lot of
24 discussion about DDE concentrations in sediment, and those
25 concentrations have been on dry sediment mass, and I'm going

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1 to begin talking about concentrations on organic matter.

2 And organic matter is the phase or the component
3 of the sediment to which the DDT is absorbed. The sediments
4 are composed of organic matter and inorganic matter. The
5 inorganic matter is largely irrelevant. It's the organic
6 matter to which the DDT is absorbed, and so it's important
7 when you're looking at spatial patterns to look at the DDT
8 on the organic matter, and that's what I've done.

9 Now, the DDT that's absorbed onto this organic
10 matter can settle from the water column and become
11 associated with the sediment. The DDT that's in the
12 sediment potentially can move back into the water column, if
13 the sediments are scoured or resuspendable to the bottom
14 into the water. The DDT that's dissolved can also move or
15 migrate between the water and the sediment via processes
16 like diffusion.

17 And, in addition, it is subject to potentially
18 moving between the water and the air in a process called
19 volatilization. The DDT that's in the sediment is taken up
20 by benthic invertebrates that live within the sediment.
21 These benthic invertebrates ingest sediment organic matter,
22 and the organic the DDT that is associated with that organic
23 matter is taken up by these organisms.

24 Benthic fish that feed on the benthic
25 invertebrates would, through that ingestion, accumulate the

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1 DDT that was associated into the benthic invertebrates.
2 Fish that live in the water column also can accumulate DDT
3 either directly from the dissolved DDT that's in the water,
4 but that's actually a small route. It's principally by the
5 DDT that's absorbed through organic matter. It passes up
6 through the food web. Invertebrate animals eat the organic
7 matter, and they're eaten by small fish, which are eaten by
8 larger fish, and the DDT accumulates up the food web in that
9 way.

10 The DDT that's in the fish, as well as the DDT
11 that's in the invertebrates, can be passed to higher levels
12 of the food web. So, for example, gulls, alcids and other
13 waterbirds that would eat fish or invertebrates out of the
14 water column would accumulate the DDT that was associated
15 with their food.

16 And it's same way, sea lions that feed on fish
17 that have DDT in them would accumulate the DDT from the fish
18 that they eat.

19 And then peregrine falcons that would consume bird
20 species that had consumed fish that had DDT in it would
21 accumulate the DDT from those birds.

22 And bald eagles, which they feed on birds species,
23 on fish and on sea lion carcasses, would accumulate the DDT
24 from all of those died items.

25 And because DDT continually accumulates as you

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1 move through this food web, it gets to higher and higher
2 levels as you go further up the food web.

3 Q. Dr. Connolly, have you developed an opinion as to
4 whether the DDT present in the sediments of the Southern
5 California Bight originated from the White's Point Outfall?

6 A. Yes.

7 Q. What is that opinion, Dr. Connolly?

8 MR. ALLEN: Objection, your Honor.

9 THE COURT: What's the objection?

10 MR. ALLEN: Your Honor, I object to this witness
11 testifying as to that that's beyond his area of expertise,
12 and beyond the area of what was designated for expert
13 witnesses in this case. It is beyond the area addressed to
14 the seafloor.

15 THE COURT: I see it in his expertise. The
16 objection is overruled.

17 BY MS. HURLEY:

18 Q. Dr. Connolly, what is that opinion?

19 A. That opinion is that the DDT that exists in the surface
20 sediments of the Palos Verdes Shelf and Santa Monica Bay
21 came from simply from the White's Point Outfall source.

22 MS. HURLEY: If we could have the next
23 demonstrative.

24 Your Honor, the next demonstrative that
25 Dr. Connolly's going to be speaking of is labeled 77 in your

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1 book.

2 BY MS. HURLEY:

3 Q. Dr. Connolly, using this demonstrative, if could you
4 explain the basis for your opinion.

5 A. Yes. My opinion derives from the spatial pattern of
6 the DDT or in this case in the demonstrative DDE patterns in
7 the surface sediments in the Southern California Bight.

8 That pattern is characterized by highest
9 concentrations or peak concentrations in the vicinity of the
10 White's Point Outfall, and those concentrations decline as
11 you move away from the outfall to the north or the south,
12 and the decline is such that the concentrations themselves
13 appear to be dependent on the distance from the outfall, so
14 the further you get away from the outfall, the lower the
15 concentrations are.

16 And this represents a plume, and that plume is
17 clearly evident on the Palos Verdes Shelf and through Santa
18 Monica Bay, and there is no evidence of any other plumes in
19 the sediment data over this distance, and that pattern could
20 only have been generated if the White's Point Outfall was
21 the source. And that's illustrated in the demonstrative.

22 What's plotted here are essentially all of the
23 surface sediment data that we were able to obtain for the
24 period from 1985 through 1998, and I plotted DDT or DDE
25 concentrations here in terms of organic carbon. Organic

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1 carbon is the measure of organic matter. And, as I
2 indicated earlier, that's the component of the sediment that
3 the DDT absorbed to do so it's important to look at these
4 gradients in that fashion.

5 And what's shown here (indicating) is every
6 station that was sampled for DDT and DDE and to the extent
7 that there were multiple samplings of the same station, each
8 point here represents an average. And the concentrations

9 are indicated by a color scale, and they go from blue being
10 the lowest to red being the highest.

11 Now, the concentrations here are not directly
12 comparable to the concentrations that we talked about before
13 because those were on a dry sediment basis, when these are
14 on an organic matter basis.

15 But if we look, the highest levels, the red, are
16 concentrated on the Palos Verdes Shelf which is located
17 right here (indicating), and if we move north and south of
18 the shelf we see the concentrations decline. If you move to
19 the south they decline very rapidly, and we go from oranges
20 and reds and yellows, immediately to greens, and then
21 quickly to blues.

22 If you move to the north, the decline is more
23 gradual, consistent with the net movement of water towards
24 the north through Santa Monica Bay. And concentrations go
25 from red and orange to yellow, and then to blue and to

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1 green, and more or less blue and with green with a couple of
2 yellows through here (indicating).

3 Within the area from the Palos Verdes Shelf
4 through Santa Monica Bay, the plume centered at the White's
5 Point Outfall is clearly evident. And it's on the basis of
6 that pattern that I conclude that this area, the White's
7 Point Outfall, is primarily responsible for the DDT in those
8 sediments (indicating).

9 Q. Dr. Connolly, could you describe the data sources a
10 little bit that went into making up this demonstrative.

11 A. Certainly. There are approximately six data sources
12 here. They include several state programs and federal
13 programs. Different symbols represent the different
14 programs -- the Bay Protection Toxic -- I can't read it from
15 here -- Program, the NOAA Benthic Surveillance Program, the
16 Southern California Bight Pilot Project, the L.A. County
17 Sanitation District's sampling, the sampling done by the
18 USGS, and sampling done as part of the NOAA Mussel Watch
19 Program.

20 Q. Thank you, Dr. Connolly.

21 Do you have -- Were you in the courtroom yesterday
22 when Dr. List presented his scavenging theory?

23 A. I was.

24 Q. Do you have an opinion as to whether the defendants'
25 scavenging theory could explain the pattern of DDT

1 contamination in the surface sediments?
2 MR. ALLEN: Again, objection, your Honor.
3 THE COURT: The objection is overruled.
4 THE WITNESS: I do.
5 BY MS. HURLEY:
6 Q. What is that opinion?
7 A. That that hypothesis is incorrect. It could not
8 account for the patterns above --
9 THE COURT: What is your opinion about scavenging?
10 THE WITNESS: I'm sorry?
11 THE COURT: What is your opinion about scavenging?
12 THE WITNESS: Yes. My opinion is that this
13 scavenging, which I understand to mean that particles
14 emitted by the White's Point Outfall absorb DDT and bring it
15 to the bottom, is a phenomenon that does occur; that
16 particles emitted by the outfall would absorb DDT and would
17 in fact bring DDT to the bottom if they settled.
18 However, those particles would not have an
19 elevated DDT concentration associated with them. Simply
20 adding additional organic matter to the water column can't
21 increase the concentration on particles, and so that
22 scavenging while it would bring DDT to the sediment, would
23 not bring DDT to an elevated concentration, and you could
24 not generate elevated concentrations of DDT in the vicinity
25 of the outfall simply by having particles emitted by the

1 outfall.
2 BY MS. HURLEY:
3 Q. Dr. Connolly, have you developed an opinion as to
4 whether the DDT present in the water column of Southern
5 California Bight originated from the White's Point Outfall?
6 MR. ALLEN: Objection again, your Honor.
7 THE COURT: The objection is overruled.
8 THE WITNESS: I have.
9 BY MS. HURLEY:
10 Q. What is that opinion?
11 A. That the DDT in the water column of the Palos Verdes
12 Shelf comes from the White's Point Outfall source, and the
13 DDT in Santa Monica Bay in the water column most likely
14 comes from the White's Point Outfall source.
15 Q. What is the basis for that opinion?
16 A. The basis for that opinion is the DDT levels in the

17 water and in mussels, which represent a surrogate of the
18 water, on the Palos Verdes Shelf there are measurements of
19 DDT in the water column.

20 There was a study conducted by SCORP that was
21 published, I believe, last year, in Environmental Science
22 and Technology, and that study showed the results of
23 measurements of DDT levels in the water, and what that study
24 found was that the water column DDT levels on the Palos
25 Verdes Shelf were highest over the most contaminated

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1 sediments on the Palos Verdes Shelf, and declined away from
2 that location, which was 6C, in a pattern that was very
3 consistent with the pattern that you see in sediments in
4 terms of a decline away.

5 In addition, the concentrations in the water were
6 highest nearest the sediment, so at 6C there were samples
7 taken close to the bottom and then further away from the
8 bottom. Closest to the bottom they were the highest, and as
9 you moved up in the water column, they declined. And that
10 pattern could only have been generated if the sediments were
11 in fact the source of the DDT to the water column.

12 Q. We'd like to use the next demonstrative, please.

13 A. In Santa Monica Bay I'm not aware that there are
14 measurements of DDT directly in the water column. However,
15 there are measurements --

16 Q. Excuse me.

17 A. I'm sorry.

18 MS. HURLEY: Your Honor, this is demonstrative 78
19 in your binder.

20 BY MS. HURLEY:

21 Q. You can go ahead, Dr. Connolly.

22 A. Yes. There are measurements of DDT in coastal mussels
23 in open waters along the edge of the Bight. Mussels obtain
24 their DDT out of the water by filtering, and so their
25 concentrations are a surrogate measurement for the levels of

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1 DDT that are in the water.

2 And if you look at the patterns of the DDT in the
3 mussels along the coast, what you see is that they're
4 highest on the Palos Verdes Shelf, and they decline to the
5 north and the south in a pattern that's similar to that of
6 the sediment, and that pattern suggests, I believe strongly,

7 that the sediments are in fact the source of much of the DDT
8 that you see in the water column.

9 That's illustrated in the demonstrative here
10 (indicating), which has the same form as the last one. It's
11 showing concentrations at various locations, and there's a
12 color scale from lowest concentration to highest
13 concentration, and we're looking at DDE concentrations
14 measured in the mussels.

15 The data come from two programs -- California
16 Mussel Watch Program, and there's a NOAA Muscle Watch
17 Program. And the data shown here (indicating) are averages
18 at these stations over the period from 1985 to 1996 for the
19 California/NOAA Mussel -- the California Mussel Watch, and
20 1986 to 1998 for the NOAA Mussel Watch.

21 There are two types of data shown here
22 (indicating). There are data where the symbol has an X
23 within it, and then there are data where the symbol has no X
24 within it. That's to differentiate samples that are in open
25 coastal waters so that the mussels are seen in the marine

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1 waters. From mussels or other bivalves that were collected
2 in closed water bodies, such as lagoons or marinas or
3 tributaries to the Bight, if you look just at the symbols
4 that have no X's which represent the oceanic waters, the
5 highest concentrations occur right here at White's Point.
6 There's much less data for the mussels than there is for the
7 sediment, but if you move towards the south in the open
8 waters, you rapidly get to lower concentrations and getting
9 to these greens and blues by the time you get to San Diego.
10 And if you go to the north, you go a little more gradually
11 down -- yellows and then greens and then eventually blues.

12 So it's the consistency of the pattern, I believe,
13 that makes the White's Point Outfall source or the sediments
14 of Santa Monica Bay and Palos Verdes Shelf the source of
15 what's in the water there.

16 Q. Dr. Connolly, on your demonstrative aren't there high
17 concentration values in the mussels both to the north and
18 the south of the Palos Verdes Peninsula?

19 A. There are.

20 Q. What do these high concentrations indicate to you?

21 A. Those high concentrations are all at locations where
22 the symbols have X's, so that these are from enclosed
23 waterbodies. So, for example, up here at Mugu Lagoon
24 there's some red indicating high concentrations in bivalves

25 collected at that location.

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1 And you will also see down here in Newport Bay
2 there are high concentrations in some inland samples. They
3 indicate that there are higher or relatively high DDT or DDE
4 levels at those locations.

5 Q. Don't these high concentrations in those areas
6 contradict your opinion about the importance of the White's
7 Point Outfall source?

8 A. In my opinion no, because, just as with the White's
9 Point Outfall source, you can see in the spatial patterns,
10 looking back at the sediment here (indicating), a large
11 plume that extends north and south from the location of the
12 source.

13 We examined the data for the sediments and also
14 for fish and mussels around these other locations where
15 there were high concentrations in the inland samples, and we
16 didn't see plumes that were at all of the magnitude that you
17 see at the White's Point Outfall. If we look at Mugu Lagoon
18 and the sediment data, right outside Mugu Lagoon there are a
19 couple of yellows indicating some slightly elevated
20 concentrations of DDE in sediment. But they rapidly
21 disappear, and you are surrounded by greens and blues.

22 So there's not much evidence of a significant
23 contribution. If we go down to the Newport Bay area here
24 (indicating), there's nothing but greens and blues in the
25 sediment outside of that area. If, in fact, they move

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1 important sources, I would have expected to see high
2 concentrations in the sediments as well as well as in fish
3 outside of those areas, and we did not.

4 Q. Dr. Connolly, do you have an opinion regarding the
5 source of the DDT in bottom-feeding fish in the Southern
6 California Bight?

7 A. Yes.

8 Q. What is that opinion?

9 A. That bottom-feeding fish that inhabit the Palos Verdes
10 Shelf and Santa Monica Bay would get their DDT principally
11 from the White's Point Outfall source.

12 MS. HURLEY: If we could have the next
13 demonstrative, please.

14 Your Honor the next two demonstratives we are

15 going to be talking about are 79 and 80 in your binder.
16 BY MS. HURLEY:
17 Q. Dr. Connolly, what is the basis for the opinion that
18 you just gave?
19 A. The spatial patterns in the bottom fish look very much
20 like the spatial patterns in the sediment, and that's
21 illustrated in these demonstratives. This demonstrative
22 here (indicating) shows data from the southern California
23 Bight Pilot Project which was collected in 1994, and these
24 are concentrations measured in three species of bottom
25 fish -- Dover sole and two species of sanddab. These are

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1 concentrations measured in liver of the fish, and they're
2 expressed here as concentrations in the fat or the lipid.
3 The reason for doing that is that the fat is where DDE is
4 stored.
5 And if we look here we can see the high
6 concentrations. Again we have a color scale, blue up to
7 red. The highest values are at White's Point Outfall, we
8 see red and orange. To the south of that, there's nothing
9 but blues and greens. As we go to the north, we see some
10 high concentrations in the lower part of Santa Monica Bay,
11 and they decline rapidly to greens, and then greens and
12 blues as we move up the coast (indicating).
13 So that pattern is very consistent with the
14 pattern that we see in sediments and consistent with the
15 idea that these fish are obtaining their DDT from the
16 invertebrates that they eat out of the local sediments.
17 In addition, we looked at one specific species,
18 white croaker, for which there's much more data in the
19 vicinity of Palos Verdes to look at the spatial gradients,
20 and they yield a pattern that's similar to the pattern that
21 you see from this study.
22 THE COURT: We'll take a ten minute recess.
23 (Recess.)
24 THE COURT: All right.
25 ///

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1 BY MS. HURLEY:
2 Q. Dr. Connelly, could you please continue to explain the
3 demonstrative that include the white croaker data.
4 A. Yes. This shows data collected by L.A. County

5 Sanitation District. This was supplemented by several other
6 studies showing a spatial pattern of DDE in white croaker,
7 and the pattern here is very similar to the pattern that we
8 saw for the other benthic fish with the peak on the Palos
9 Verdes Shelf and a gradual decline to the north and a rapid
10 decline to the south.

11 Q. Dr. Connolly, do you have an opinion regarding the
12 source of DDT in fish feeding in the water column rather
13 than near to the bottom sediments?

14 A. Yes.

15 Q. What is that opinion?

16 A. The fish that --

17 MR. ALLEN: Your Honor, I object to the extent the
18 witness is opining on fish other than white croaker, because
19 the only claim of injury here to the fish is with respect to
20 the white croaker per the Pretrial Conference Order.

21 THE COURT: This goes to the birds. The objection
22 is overruled.

23 MR. ALLEN: Your Honor, may I restate the
24 objection, and insofar as it concerns birds, other than bald
25 eagles or peregrine falcons, we would object to the opinion

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1 other than to those two.

2 THE COURT: The objection is overruled.

3 THE WITNESS: Yes, I have an opinion.

4 BY MS. HURLEY:

5 Q. What is that opinion?

6 A. That the fish that reside in the water column of the
7 Palos Verdes Shelf or reside in Santa Monica Bay obtain
8 their DDT principally from the White's Point Outfall source.

9 Q. What's the basis for that opinion, Dr. Connolly?

10 A. The basis of that opinion is data for kelp bass which
11 is such a fish, and the spatial patterns in kelp bass are
12 very similar to the spatial patterns that I showed
13 previously for the mussels, suggesting that these fish are
14 deriving their DDT from the local waters, and to the extent
15 those waters, as I indicated, are attributable to White's
16 Point Outfall, the DDT in the fish would be.

17 We validated that with a bioaccumulation model in
18 which we related the levels in the water as we inferred them
19 from the mussel information to the levels in the fish, and
20 concluded that the levels in the fish were consistent with
21 the conclusion that they were obtaining their DDT from the
22 local water.

23 Q. Dr. Connolly, do you have an opinion regarding the
24 source of the DDT found in the bald eagle's nest at the
25 Santa Catalina Island?

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1 A. Yes.

2 Q. What is that opinion?

3 A. That the bald eagles at Santa Catalina Island derive
4 their DDT from the prey that they eat, and that about
5 60 percent of their DDT dose comes from sea lion carcasses;
6 the next highest group being gulls and then the other
7 organisms they eat.

8 MS. HURLEY: If we could have the next
9 demonstrative.

10 Your Honor, this is demonstrative 82 in your
11 binder.

12 BY MS. HURLEY:

13 Q. Dr. Connolly, what is the basis for the opinion that
14 you just expressed?

15 A. David Garcelon observed bald eagles feeding on Santa
16 Catalina Island in 1992 and 1993, and the results of his
17 observation are shown in this pie diagram on the left here;
18 so that 86 percent of the feeding observations were fish;
19 3 percent of the feeding observations were of sea lions, and
20 et cetera.

21 We assumed that each observation would represent
22 one meal, and using that assumption, then you simply -- if
23 you just weight these percentages by the DDE level in the
24 various prey -- so, for example, sea lions are 3 percent of
25 the diet, but the average concentration measured in sea

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1 lions is about 26 parts per million. That gives it a
2 relatively high weight. And for gulls are 4 percent of the
3 diet, but they have a relatively high concentration in
4 comparison to some of these other species.

5 And so that weighting gets you the dose,
6 essentially the fraction of the diet weighed by the DDE
7 concentration. And that's what's shown here in this pie
8 diagram on the right (indicating). So that we estimate that
9 for that period for those observations about 60 percent of
10 the dose that would have been obtained by the bald eagles
11 was coming from sea lions.

12 Q. Dr. Connolly, have you developed an opinion as to

13 whether the DDT present in the sea lions in the Southern
14 California Bight originated from the White's Point Outfall?
15 A. Yes.
16 MR. ALLEN: Objection, your Honor.
17 THE COURT: The objection is overruled.
18 BY MS. HURLEY:
19 Q. What is that opinion?
20 A. That the more highly contaminated individuals of the
21 sea lions that have been sampled are likely to have obtained
22 that DDT from the White's Point Outfall source.
23 Q. What's the basis for that opinion, Dr. Connolly?
24 A. We developed a bioaccumulation model which we used to
25 attempt to estimate what the concentration or the average

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1 concentration of DDT would have had to have been in the food
2 that the sea lions were eating, the fish the sea lions were
3 eating, given the concentrations that were measured in the
4 sea lions. We then used those estimates of fish
5 concentrations, and compared them to measurements of
6 concentrations in fish throughout the Southern California
7 Bight. And for the most highly-contaminated individuals the
8 concentrations that they would have had to have been exposed
9 to to achieve the levels they had, we found only in Santa
10 Monica Bay and the Palos Verdes Shelf.
11 MS. HURLEY: Your Honor, at this point the
12 plaintiffs request that Dr. Connolly's written testimony be
13 admitted into evidence.
14 THE COURT: Any objection?
15 MR. ALLEN: Objection, your Honor. Same basis
16 stated previously.
17 THE COURT: In evidence.
18 BY MS. HURLEY:
19 Q. Dr. Connolly, if you would turn to your binder to
20 Plaintiffs' Exhibit 3687, if you'd take a moment to look at
21 that, sir.
22 A. Yes.
23 Q. Dr. Connolly, were the charts and graphs in this
24 exhibit prepared at your direction by employees at QEA?
25 A. They were.

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1 Q. Are these charts and graphs an accurate reflection of
2 the analyses included in your testimony?

3 A. They are.
4 Q. Are the data underlying these analyses the type of data
5 normally relied upon by scientists in your field?
6 A. Yes.
7 MS. HURLEY: Your Honor, we request that
8 Plaintiffs' Exhibit 3687 be admitted into evidence.
9 THE COURT: Any objection?
10 MR. ALLEN: Your Honor, objection.
11 THE COURT: 3687 in evidence.
12 (Trial Exhibit 3687 received.)
13 BY MS. HURLEY:
14 Q. Dr. Connolly, would you please turn to 3688,
15 Plaintiffs' Exhibit 3688.
16 A. Yes.
17 Q. Would you please take the time to review this exhibit.
18 A. Yes.
19 Q. Dr. Connolly, were the charts and the graphs in this
20 exhibit prepared at your direction by employees at QEA?
21 A. They were.
22 Q. Are the charts and graphs an accurate reflection of the
23 analyses included in your testimony?
24 A. They are.
25 Q. Are the data underlying these analyses the type of data

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1 normally relied upon by scientists in your field?
2 A. Yes.
3 MS. HURLEY: Your Honor, we would request the
4 Plaintiffs' Exhibit 3688 be admitted into evidence.
5 THE COURT: Any objection?
6 MR. ALLEN: Objection, your Honor. Same basis.
7 THE COURT: I believe also that 3687 is not
8 necessarily receivable in evidence since it is the basis
9 upon which the opinions have been made. He's expressed his
10 opinions. All of these are hearsay, inadmissible hearsay.
11 The objection is sustained.
12 (Trial Exhibit 3687 withdrawn.)
13 MS. HURLEY: Yes, your Honor. Plaintiffs have
14 nothing further.
15 THE COURT: Cross-examination?
16 MR. ALLEN: Yes, your Honor.
17 CROSS-EXAMINATION
18 BY MR. ALLEN:
19 Q. Good morning, Doctor.
20 A. Good morning.

21 Q. Now, Dr. Connolly, you were asked to prepare, as part
22 of your work in this case, something you referred to as a
23 bioaccumulation model; is that correct?
24 A. Yes.
25 Q. And the specific title of the report you prepared is

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1 something called the Southern California Bight Damage
2 Assessment Food Web Pathway Study; is that correct?
3 A. Yes.
4 Q. Now, Dr. Connolly, as I understand the work you did for
5 this model that you referred to, this is a mathematical
6 model of some sort?
7 A. Yes.
8 Q. You made calculations of various parameters applicable
9 to the animals that you studied.
10 A. In principle, yes.
11 Q. So, for example, for the fish you calculate using some
12 mathematics on how much DDT they accumulate in their bodies;
13 is that correct?
14 A. Yes.
15 Q. And what the fish eat; is that correct?
16 A. We don't calculate that; we observed information to
17 estimate that.
18 Q. Fair enough. And you used information concerning where
19 the fish live; isn't that correct?
20 A. Yes.
21 Q. But it's true, is it not, that you're not an expert
22 with respect to the movement or the life cycle or biology of
23 say the fish that you studied in your model; right?
24 A. I am not.
25 Q. Okay. You rely on work by others in developing inputs

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1 for your model; isn't that true?
2 A. Yes.
3 Q. And with respect to the sea lion, you actually did a
4 study -- you studied sea lions for purposes of your model?
5 A. Yes.
6 Q. And there again you had to gather data for various
7 inputs that you used for your model; right?
8 A. Yes.
9 Q. And you would agree with the general statement,
10 wouldn't you, that a model is only as good as the

11 information that goes into it; isn't that correct?
12 A. As a general statement, yes.
13 Q. Now, with respect to the sea lion -- again, you're not
14 an expert regarding sea lions and their movement; right?
15 A. No, I'm not.
16 Q. And you're not an expert with respect their biology, or
17 frankly, for any element of sea lions; isn't that true?
18 A. I'm not sure.
19 Q. Let me rephrase that question. The first work that you
20 have done in terms of researching or looking at sea lions
21 has been in connection with your retention as an expert in
22 this case for the Government; isn't that true?
23 A. Yes.
24 Q. Prior to that you didn't study California sea lions.
25 A. No.

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1 Q. Now, so when you were coming up with these inputs for
2 your model for sea lions you had to rely on the work of
3 others; right?
4 A. Yes.
5 Q. And you looked for who were the experts in the area to
6 find out what they had to say, for example, on what sea
7 lions eat; isn't that correct?
8 A. We reviewed the literature.
9 Q. That's right. And one of the things that you relied on
10 for purposes of your model was what kind of fish sea lions
11 eat, didn't you?
12 A. Yes.
13 Q. And you actually prepared a chart back in 1994 in which
14 you identified what you had determined to be the prey of sea
15 lions based upon the research that you did; isn't that
16 correct?
17 A. As I recall, yes.
18 MR. ALLEN: May I have Trial Exhibit 19325.
19 BY MR. ALLEN:
20 Q. And, Dr. Connolly, can you identify for me what has
21 been marked as -- Would you identify for me what has been
22 marked as Trial Exhibit 19325.
23 A. As I recall, that's a chart that we prepared
24 summarizing information from several publications on the
25 dietary composition of sea lions.

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1 MR. ALLEN: Your Honor, you've been handed Trial
2 Exhibit 19325, and just by the way, your Honor, at the
3 bottom of that document, which is a multiple page document,
4 there's these ranges of PPX numbers, and what we have
5 reference to is PPX 015, 0151, which is towards the end of
6 the document which is the same document that's displayed on
7 the screen here.

8 THE COURT: All right.

9 BY MR. ALLEN:

10 Q. Now, Dr. Connolly, the chart that you prepared in 1994
11 didn't include the white croaker on it, did it?

12 A. Not as I recall.

13 Q. And the interim briefing that you prepared that for,
14 that was a briefing with the NOAA people who were working on
15 the case; isn't that correct?

16 A. Interim briefing that's referred to here?

17 Q. That's right.

18 A. I believe; I'm not certain.

19 Q. But it's true, isn't it, that when you had done some
20 work on your model you had a meeting with the people that
21 you were working on the case from NOAA; right?

22 A. I believe so.

23 Q. And you presented what you had developed up to that
24 point concerning the progress that you had made on your
25 model; right?

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1 A. I believe that's correct.

2 Q. And this was the chart, one of the documents that you
3 used.

4 A. I believe so.

5 Q. Okay. And isn't it true that -- Well, do you recall
6 who attended that meeting?

7 A. I do not.

8 Q. Do you have any recollection of whether a Mr. John
9 Cubit attended the meeting?

10 A. He may have. I'm uncertain.

11 Q. Do you know who John Cubit is?

12 A. I do.

13 Q. Who is he?

14 A. He works for NOAA.

15 Q. And have you had any contact with Mr. Cubit in
16 connection with the work that you've done in this case?

17 A. Yes.

18 Q. And what's that contact been?

19 A. He's been involved in many of the meetings that we
20 attended, and we had discussions with him as we were going
21 along developing our work.
22 Q. And you talked to Mr. Cubit about various aspects of
23 the work that you were doing on your model; isn't that true?
24 A. Yes.
25 Q. And Mr. Cubit would sometimes give you comments and

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1 advice on what should be added to your model; right?
2 A. He would certainly comment. I don't think he was
3 giving us advice.
4 Q. Dr. Connolly, I'd like you to take a look at what's
5 been marked as Trial Exhibit 19327.
6 Do you have that in front of you, Dr. Connolly?
7 A. Yes, I do.
8 Q. And, Dr. Connolly, could you identify what has been
9 marked for purposes of identification as 19327?
10 A. I'm a little confused. Is this that this whole thing
11 is?
12 Q. Well, yes.
13 A. I don't see that number.
14 Q. You have what --
15 A. Okay. Yes.
16 Q. -- Exhibit 4 that I think you have, and there looks to
17 be a stick tab. Can you identify this document for me?
18 A. These appear to be notes that I made.
19 Q. And this is your handwriting?
20 A. Yes, it is.
21 Q. And these notes -- in what connection did you make
22 these notes?
23 A. I believe this is a copy of notes that I had in a
24 notebook for the project, so I was making notes at various
25 times.

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1 Q. And so you would keep track of conversations that you
2 may have had with other people working on your
3 bioaccumulation model; is that correct?
4 A. Yes, I would.
5 Q. Now, do you recall talking to Dr. Cubit about adding
6 white croaker to the diet of sea lions sometime in 1994?
7 A. I have a general recollection of conversations about
8 croaker.

9 Q. Well, displayed on the board, Dr. Connolly, there is a
10 page from what's been marked as Exhibit 19327. Do you
11 recognize the handwriting? And I have specific reference to
12 page 2921 of what you have in front of you.
13 A. That's my handwriting.
14 Q. That's your handwriting. And I take it this reflects a
15 conference call that you participated in with Mr. Cubit,
16 Dr. Cubit --
17 A. That's what it says.
18 Q. -- on 4/15/94; right?
19 A. Yes.
20 Q. And could you -- And there's some initials on the right
21 here. What do those initials stand for?
22 A. The initials on the right, that's my initials and my
23 colleague David Glaser's initials.
24 Q. Okay. And under John Cubit there's another individual
25 listed. Is that Jerry George?

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1 A. Yes, it is.
2 Q. And who is Jerry George?
3 A. My recollection is he was at the Department of Justice.
4 Q. He was at the Department of Justice?
5 A. That's my recollection, but I'm not certain.
6 Q. Was it your understanding he was a lawyer with the
7 Department of Justice?
8 A. That's my recollection, yes.
9 Q. And was it your understanding he was a lawyer working
10 on this case?
11 A. That's my recollection, yes.
12 Q. Could you read the highlighted section there, because
13 I'm not sure I fully can make out your handwriting. What
14 does that say?
15 A. "Add croaker and Dover sole," and I can't make out the
16 next stuff, "for sea lions."
17 Q. Could that be plots -- do plots for sea lions?
18 A. I can't tell.
19 Q. Well, do you have any understanding what plots are?
20 A. Yes.
21 Q. What are plots?
22 A. Graphs.
23 Q. Okay. And what's your understanding of what's written
24 there?
25 MS. HURLEY: Objection, your Honor.

1 THE COURT: The objection is sustained.
2 BY MR. ALLEN:
3 Q. Now, you subsequently -- In your in the bioaccumulation
4 model that you prepared for submission in support of your
5 testimony you included white croaker in the diet of sea
6 lions; isn't that correct?
7 A. Yes.
8 Q. And, isn't it true, Dr. Connolly, that sea lions
9 rarely, if ever, eat white croaker?
10 A. I wouldn't agree with that.
11 Q. Well, at your deposition you weren't able to cite any
12 literature that supported the proposition that sea lions eat
13 white croaker; isn't that correct?
14 A. I recollect having a discussion about an article in
15 Science at my deposition.
16 Q. Well, the article in Science that you referred to had
17 to do with a sealab study?
18 A. Yes.
19 Q. But you actually cited a paper in your report, right, a
20 DeLong paper?
21 A. Yes.
22 Q. And the DeLong paper had a -- was what, to your
23 recollection?
24 A. It was a study of dieatary habits of sea lions, as I
25 recall.

1 Q. And those were dietary habits of sea lions on San
2 Miguel; isn't that correct?
3 A. I think that's correct.
4 Q. The female sea lions on San Miguel; right?
5 A. Could very well have been.
6 Q. Did you cite any other studies or references in your
7 food web model for sea lion diet?
8 A. Yes.
9 Q. And with respect to the DeLong article, what percentage
10 of the diet did Dr. DeLong attribute to white croaker in sea
11 lions?
12 A. I don't recall the percentage.
13 Q. Wasn't the number something on the order of
14 0.3 percent?
15 A. It was very low. I don't exactly at this time recall
16 the number.

17 Q. And for purposes of the study that you conducted here,
18 your bioaccumulation model, you've really focused in on
19 female sea lions from San Miguel; isn't that true?
20 A. In developing the model, yes.
21 Q. And isn't it true that at the time you presented your
22 chart at the briefing with NOAA in 1994, you didn't believe
23 that sea lions constituted -- I'm sorry -- that white
24 croaker constituted part of the diet of sea lions, didn't
25 you?

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1 A. I wouldn't say that I didn't believe. I would say the
2 information that we had gathered to that point didn't
3 indicate that. The subsequent information in the science
4 article did indicate that they ate white croaker.
5 Q. Now, you also collected data on the movement of female
6 sea lions; isn't that correct, from San Miguel?
7 A. I'm aware of some studies. I didn't collect any data
8 myself.
9 Q. Okay. And your model concludes, does it not, or you
10 conclude in your report that in order for female sea lions
11 to have accumulated in the levels of DDT that have been
12 identified, they had to be feeding on the Palos Verdes Shelf
13 or north of the Palos Verdes Shelf; isn't that correct?
14 A. I don't think that's accurate.
15 Q. You don't think that's accurate. Well, you did
16 conclude in your paper that the contamination levels at
17 Santa Catalina were not high enough to account for the DDT
18 levels in female sea lions; isn't that correct?
19 A. Yes.
20 Q. And with respect to where you concluded that female sea
21 lions had to be obtaining the majority of their DDT, isn't
22 it your opinion that the more highly contaminated
23 individuals from San Miguel Island female sea lions are
24 likely to obtain most of the DDT from fish of either Santa
25 Monica Bay or the Palos Verdes Shelf?

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1 A. Yes, it is.
2 Q. And there are no -- there are no white croaker at San
3 Miguel Island, are there?
4 A. Not to my knowledge.
5 Q. Why don't we put.
6 If I may, if we could put one of these --

7 Your Honor, may I go over there to put up an
8 exhibit?
9 THE COURT: All right.
10 MR. ALLEN: Thank you.
11 BY MR. ALLEN:
12 Q. Dr. Connolly, could you identify for us where San
13 Miguel Island is?
14 A. This is part of the northern Channel Islands, the
15 outermost island here (indicating).
16 Q. And what would you say the distance is to the Palos
17 Verdes Shelf, if you can just highlight where the Palos
18 Verdes Shelf is?
19 A. Yes. It's more than 100 kilometers.
20 Q. And so for female sea lions to be eating white croaker,
21 would they have to go to the Palos Verdes Shelf?
22 A. No.
23 Q. Where else could they go?
24 A. They could go to other inshore waters.
25 Q. Which other inshore waters?

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1 A. As far as I know the white croaker may be found in
2 inshore waters anywhere along there as long as it's an
3 appropriate substrate.
4 Q. But for the contamination measurements you used for
5 your study where did you get that data from for the
6 contaminant measurements in white croaker?
7 A. White croaker. From the data that's displayed here
8 (indicating).
9 Q. No, the location that you collected for the white
10 croaker contaminant levels, where were the white croaker
11 collected?
12 A. In Santa -- principally Santa Monica Bay or on the
13 Palos Verdes Shelf.
14 Q. So that was an input to your model was data,
15 contamination data from the PVS, Palos Verdes Shelf, or
16 Santa Monica Bay; right?
17 A. No.
18 Q. No, okay. Did you use data from any other location for
19 white croaker?
20 A. For white croaker?
21 Q. Yes.
22 A. We used whatever data existed in the regions in which
23 we looked.
24 Q. So let's stick with white -- so you identified white

25 croaker data that you used for, from the Palos Verdes Shelf;

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1 is that correct?

2 A. Yes.

3 Q. And you mentioned Santa Monica Bay? Is that correct?

4 A. Yes.

5 Q. Is there any other place that you used white croaker

6 DDT or DDE contamination data?

7 A. To the extent that it existed, we would use data from

8 other areas.

9 Q. You can't recall of any other areas right now.

10 A. In my expert testimony we have a figure that includes

11 data for the northern area in Ventura. I believe this data

12 up here (indicating) was included.

13 Q. Now, as I understand it, though, you included --

14 When you say you included white croaker in the
15 diet of the sea lion for purposes of your model, what did
16 you mean by that?

17 A. I don't think I ever said that.

18 Q. Okay. Well, did you include -- what's the relationship

19 then between the white croaker and the sea lion?

20 A. Well, the white croaker data and the sea lion model are
21 independent of each other.

22 The modeling was used to estimate what would be
23 the average concentration of DDT in fish that sea lions
24 preyed on. That's the model.

25 We then looked at all the fish that were potential

Page 488

1 prey, and then looked at whatever data existed, and simply

2 averaged those data in various regions and said, is the

3 required diet concentration consistent with them having

4 gotten it from any of these various regions.

5 Q. Okay. So let's -- going back to the sea lion again,

6 what were the regions that you identified as having prey

7 contamination levels high enough to account for the levels

8 observed in California sea lions?

9 A. In the more highly contaminated individuals, it was the
10 areas of Santa Monica Bay and Palos Verdes Shelf.

11 Q. Now, do you know -- Well, are you aware of any studies

12 that support the proposition that female sea lions from San

13 Miguel travel to the Palos Verdes Shelf to feed?

14 A. No, I'm not.

15 Q. Okay. And you are not contending, are you, that female
16 sea lions from San Miguel are swimming over to the Palos
17 Verdes Shelf and consuming white croaker, are you?
18 A. No, I'm not.
19 Q. Now, one of the fish, other fish that you addressed in
20 your model are Dover sole; is that correct?
21 A. That was one of the species that we modeled, yes.
22 Q. But Dover sole are -- You looked at juvenile Dover
23 sole; isn't that correct?
24 A. Yes.
25 Q. And isn't it true that only juvenile Dover sole reside

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1 on the Palos Verdes Shelf?
2 A. That's my understanding.
3 Q. And when they become adults, what happens to them?
4 A. They move to deeper water, is my understanding.
5 Q. And do you have any understanding as to whether they
6 return to the Palos Verdes Shelf?
7 A. No, I do not.
8 Q. Now, Dr. Connolly, you actually prepared two versions
9 of your expert report; isn't that correct?
10 A. Yes.
11 Q. You prepared a report in 1994; right?
12 A. Yes.
13 Q. And that report was actually submitted by the
14 plaintiffs as part of the expert reports submitted in
15 support of the plaintiffs' natural resource damages claim;
16 isn't that correct?
17 A. I submitted a report to the Government.
18 Q. It was your understanding that that's what it was being
19 submitted for; right?
20 A. Yes.
21 Q. And you did a model for the bald eagles, you did a
22 bioaccumulation model of the bale eagles at that time,
23 didn't you?
24 A. Yes.
25 Q. And isn't it true that the model that you -- the

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1 results of the model that you did in 1994, the results that
2 your model yielded for bald eagles indicated a lower
3 contamination level than were observed in the bald eagle?
4 A. It may have. I don't recall.

5 Q. You don't recall?
6 MS. HURLEY: Objection, your Honor. I'm not sure
7 I see the relevance of this line of questioning.
8 THE COURT: I don't either, but let it go.
9 (Pause.)
10 BY MR. ALLEN:
11 Q. Well, didn't you say in your 1994 report "On face
12 value, the model indicates that bald eagles on Santa
13 Catalina have greater p,p'-DDE and PCB levels that can be
14 accounted for by consumption of local prey"?
15 MS. HURLEY: Objection, your Honor. If he's going
16 to ask him about a 1994 report, could we have the report in
17 front of him?
18 MR. ALLEN: Certainly, I'd be happy to put the
19 report in front of him.
20 THE COURT: Okay.
21 BY MR. ALLEN:
22 Q. If you could turn to page 5-53 of your 1994 report.
23 A. Yes. I'm there.
24 Q. Okay. And I was reading from the second full paragraph
25 under the conclusions do you see that?

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1 A. Yes.
2 Q. Now, you go on in your conclusions, starting on page
3 5-53 and continuing over to 5-54, to explain why the model
4 results that you obtained back then for bald eagles were not
5 consistent with the observed data; isn't that correct?
6 A. Yes.
7 Q. And after you submitted the 1994 report, you had a
8 discussion with Dr. Cubit, did you not, concerning the
9 reasons why the bald eagle model did not match the observed
10 data; isn't that right?
11 A. I may have. I don't recall.
12 Q. Let's see if we can refresh your recollection.
13 Well, let me just ask you another question.
14 Did you have a discussion with anybody from your
15 office at any time concerning including additional data in
16 your bald eagle model after you prepared your 1994 report?
17 A. What data?
18 Q. Well, concerning the exclusion of sea lion DDT tissue
19 data?
20 A. We may have. I don't recall specifically.
21 Q. Dr. Connolly, who did the major work on the bald eagle
22 or the bird model for your bioaccumulation report?

23 A. David Glaser under my direction.
24 Q. Under your direction. And did he report to you that
25 there had been a conversation in which there was a

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1 discussion -- Well, let me withdraw that question.
2 Do you recall a discussion concerning the
3 exclusion of what was termed an outlier for sea lion data
4 from your 1994 report?
5 A. I remember discussions that David and I had among
6 ourselves, certainly.
7 Q. And isn't it true that the reason that you had excluded
8 that some of the sea lion data from 1994 from your bald
9 eagle bird model was that you believed it was an outlier;
10 isn't that correct?
11 A. That was our initial assessment.
12 Q. Okay. And then there was a discussion with the NOAA
13 people concerning the exclusion of that outlier?
14 A. I recall internal discussions with David Glaser. I
15 don't recall whether or not there was a discussion with
16 NOAA.
17 Q. Okay. And, in any event, in your 1997 report, you
18 included that outlier in your bald eagle; isn't that
19 correct?
20 MS. HURLEY: Objection to the characterization as
21 outlier.
22 THE COURT: The objection is sustained.
23 BY MR. ALLEN:
24 Q. You included the data that you had previously not
25 included in for purposes of the model that's reflected in

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1 your 1997 report; isn't that true?
2 A. Yes.
3 MR. ALLEN: Excuse me, your Honor.
4 BY MR. ALLEN:
5 Q. Dr. Connolly, let me see if I can help refresh your
6 recollection on this point.
7 Over on page 61 --
8 Would you please give Dr. Connolly a copy of his
9 depo transcript and the Court as well.
10 BY MR. ALLEN:
11 Q. Now, Dr. Connolly, on page 61, line 19, I asked the
12 question,

13 "You had a discussion with NOAA about the
14 exclusion of the sea lion carcass?
15 "Answer: Yes."
16 Do you want to take a moment to review that
17 testimony to see if that helps refresh your recollection as
18 to whether you had a discussion with NOAA concerning the
19 exclusion of the sea lion data from the model.
20 MS. HURLEY: Your Honor, just a point of
21 clarification, could we ask what time period Mr. Allen is
22 talking about?
23 THE COURT: We'll take that up at 1:30
24 MR. ALLEN: Thank you, your Honor.
25 (Luncheon recess.)

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1 October 19, 2000 USA v. Montrose
2 REPORTER'S CERTIFICATE
3
4 I CERTIFY THAT THE FOREGOING IS A CORRECT
5 TRANSCRIPT FROM THE RECORD OF PROCEEDINGS
6 IN THE ABOVE-ENTITLED MATTER.
7
8 _____ October 19, 2000 _____
LEONORE A. LeBLANC
9 Official Reporter

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Page 495

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1 UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
3 WESTERN DIVISION
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6 HONORABLE MANUEL L. REAL, JUDGE PRESIDING
7
8 UNITED STATES OF AMERICA,)
9)
10 PLAINTIFF,)
11 vs.) CIVIL NO. 90-3122-R
12)
13 MONTROSE CHEMICAL CORPORATION,)
14 OF CALIFORNIA, ET AL.,)
15)
16 DEFENDANTS.)
17 _____)
18)
19 AND RELATED COUNTERCLAIMS,)
20 CROSS-CLAIMS AND THIRD-PARTY)
21 ACTIONS)
22 _____)
23
24 REPORTER'S TRANSCRIPT OF PROCEEDINGS
25 Los Angeles, California

18 Thursday, October 19, 2000
2:00 p.m.
19 Afternoon Session
20
21 Volume 3 DEBORAH D. PARKER, CSR 10342
22 Pgs. 496 - 598 OFFICIAL COURT REPORTER
408 UNITED STATES DISTRICT COURT
23 312 NORTH SPRING STREET
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I N D E X - Volume 3

PLAINTIFFS' WITNESSES: DIRECT CROSS REDIRECT RECROSS

CONNOLLY, John

Resumed 501 517 520

GRESS, Franklin 523 549 558

KIFF, Lloyd 566 588

E X H I B I T S

TRIAL EXHIBITS: IDENTIFICATION EVIDENCE

19327, 19325 and 19338 519

19306 560

23

24

25

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1 LOS ANGELES, CALIFORNIA; THURSDAY, OCTOBER 19, 2000; 1:30 P.M.

2 THE COURT: All right.

3 JOHN CONNOLLY, PLAINTIFFS' WITNESS, RESUMED

4 CROSS-EXAMINATION, RESUMED

5 BY MR. ALLEN:

6 Q. Good afternoon, Dr. Connolly.

7 A. Good afternoon.

8 Q. Dr. Connolly, I have only a few more questions that I
9 would like to cover with you. Do you know what the impact of
10 adding the sea lion data that you had previously excluded --
11 what impact that had on your bald eagle model?

12 A. Yes.

13 Q. And what was the impact?

14 A. The impact of that, with further refinements of the model,
15 resulted in computed levels of DDE in all the eggs that were
16 consistent with measured levels of DDE in bald eagles' eggs.

17 Q. Well, isn't it true that adding that data to your model

18 more than tripled the DDE exposure concentration?

19 A. In total?

20 Q. Well, in any respect.

21 A. Not in total. It may be that the sea lion component of

22 the diet increased by approximately that. I don't remember for

23 sure, but it was on that order.

24 Q. So the sea lion component increased by three times?

25 A. I don't remember if it was exactly three, but something on

502

1 that order.

2 Q. If I could, I would like to take you to -- I hope you have

3 it up there. It's the attachment to your testimony. It's your

4 report, Trial Exhibit 3682. There is just a question I wanted

5 to ask you about that field report. And I specifically have

6 reference to page 1-16 of the report.

7 A. Yes.

8 Q. Dr. Connolly, in the first full paragraph of the report,

9 you discuss the results of your sea lion model; isn't that

10 correct?

11 A. Yes, it is.

12 Q. And at the end of that paragraph, you sum up the results
13 of your modeling activity; right?
14 A. Yes.
15 Q. And you conclude that the source of contaminants was most
16 probably the White's Point outfall; correct?
17 A. Yes.
18 Q. And then you explain the reason for that conclusion; isn't
19 that correct?
20 A. Yes.
21 Q. And one of the reasons is that you indicate that the
22 females spend most of their time -- most the year foraging from
23 San Miguel; right?
24 A. Yes.
25 Q. And then secondly, you say, though, that:

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1 "The only area with observed contaminant
2 concentrations that are clearly sufficient to
3 yield the levels observed in the sea lions and
4 that is within foraging range of the island is
5 the Palos Verdes Shelf."

6 Did I read that correctly?

7 A. Yes, you did.

8 Q. But you testified earlier that you are not aware of any

9 studies that support the proposition that female sea lions on

10 San Miguel go over to the Palos Verdes Shelf to forage, do you?

11 A. No, I'm not.

12 Q. Now, do you recall ever receiving a memo from or a note

13 from Jerry George asking if you could develop a chart that

14 illustrates, in effect, a cancer or ulcer of DDT and/or PCB

15 contamination on the Palos Verdes Shelf?

16 MS. HURLEY: Objection, Your Honor. This has already

17 been briefed previously. It was part of the original

18 misconduct motion. You already ruled on that motion.

19 THE COURT: The objection is sustained.

20 BY MR. ALLEN:

21 Q. Dr. Connolly, could you turn to Figure 1-4 of your report,

22 Trial Exhibit 3682.

23 A. Yes.

24 Q. And could you explain to me what Figure 1-4 represents.

25 A. Yes. It is a -- the spatial pattern of DDE levels in

1 mussels collected along the coast of California.

2 Q. Okay. And the highest point indicated on Figure 1-4 was
3 by the black bar. Where is that located?

4 A. The highest is on the Palos Verdes Shelf.

5 MR. ALLEN: Okay. Can we have Trial Exhibit 19338,
6 please.

7 THE COURT: Mr. Allen, you have to hold the exhibit
8 before this one. I did not complete my --

9 MR. ALLEN: I'm sorry.

10 THE COURT: -- my digestion.

11 MR. ALLEN: Certainly, Your Honor. Would you like me
12 to put it back on the --

13 THE COURT: Well, after you finish with that.

14 MR. ALLEN: I'm sorry. I may have misunderstood.
15 Would you like me to proceed or would you like me to wait?

16 THE COURT: You can proceed.

17 MR. ALLEN: Okay. But you want me to go back to
18 that?

19 THE COURT: No. Put it up at the end.

20 MR. ALLEN: Okay, thank you.

21 BY MR. ALLEN:

22 Q. Dr. Connolly, can you identify what's been marked for
23 purposes of identification as Exhibit 19338?

24 A. Yes. This appears to be the same Figure 1-4 with
25 handwritten bars on it and my handwriting.

505

1 Q. It's your handwriting?

2 A. Yes.

3 Q. And those are your handwritten bars; right?

4 A. Yes.

5 Q. And you recall at your deposition in Washington, I asked
6 you to redraw Figure 1-4, including data from freshwater clams;
7 isn't that right?

8 MS. HURLEY: Objection, Your Honor. This is still
9 the same issue as briefed in the misconduct.

10 MR. ALLEN: Your Honor, this one was not briefed in
11 the misconduct.

12 THE COURT: The objection is overruled.

13 THE WITNESS: Yes, it is.

14 BY MR. ALLEN:

15 Q. Okay. And when -- you had actually discussed with
16 Mr. Cubit, did you not, eliminating some freshwater clams from
17 the -- from your database?

18 A. No.

19 Q. Had you discussed not including them in a figure that you
20 would develop to show the spatial profile of p,p'-DDE
21 concentrations in mussels?

22 A. To the extent that we were trying to show a spatial
23 pattern in open waters, yes.

24 Q. Okay. And as a result of that discussion, you eliminated
25 from your figure freshwater clams that had DDE levels in them;

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1 right?

2 A. I don't recollect that it was as a result of that
3 discussion.

4 Q. But at some point you eliminated the freshwater clams from
5 that discussion -- from your profile?

6 A. Yes.

7 Q. And is it correct that when you put the freshwater clam
8 data back into the profile, you come up with what is depicted
9 on Exhibit 19338?

10 A. Yes.

11 Q. And you have handwritten -- well, why don't you identify
12 for me: What's the highest bar that now appears on the

13 exhibit, the location of that bar?

14 A. I believe it's Mugu Lagoon.

15 Q. So -- and how much higher would you say -- would you say

16 that the concentrations at Mugu Lagoon are compared to the

17 concentrations in mussels at the Palos Verdes Shelf?

18 A. At least three times higher. I don't remember precisely.

19 Q. Now, the freshwater clams that you took a look at -- those

20 had DDE concentrations in them; right?

21 A. Yes.

22 Q. But those weren't clams in open ocean waters; right?

23 A. Right.

24 Q. And there was no sediment source that you could identify

25 for -- to account for the DDE levels in those clams; right?

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1 A. That's not true.

2 Q. Well, did you identify a sediment source at Mugu Lagoon?

3 A. There is sediment data from Mugu Lagoon as well.

4 Q. Well, no. I asked -- did you find a sediment source

5 comparable to the sediment source that you previously discussed

6 at Palos Verdes Shelf at Mugu Lagoon?

7 MS. HURLEY: Objection.

8 THE WITNESS: Are you referring to the open waters, a

9 region near Mugu Lagoon?

10 BY MR. ALLEN:

11 Q. A region near Mugu Lagoon that could be accounting for the

12 DDE concentrations in clams at Mugu Lagoon?

13 A. No.

14 Q. You did not find a source? Where is it -- where were

15 these freshwater clams getting their DDE levels from then?

16 A. I assume they were getting them from inland.

17 Q. From inland? What do you mean, "from inland"?

18 A. From runoff.

19 Q. Runoff from where?

20 A. From the water draining into the tributaries to Mugu

21 Lagoon.

22 Q. Now, Dr. Connolly it's correct, is it not, that white

23 croaker spend their time in the bottom of the ocean; is that

24 correct?

25 A. They live in close proximity to the bottom, yes.

1 Q. And they are bottom feeders, generally speaking; right?

2 A. Yes.

3 Q. And they don't move very much; right?

4 A. That's my understanding.

5 Q. They tend to stay in the same area; right?

6 A. That's my understanding.

7 Q. And so that's how they develop their concentrations;

8 right?

9 Well, since they are closely tied to the sediments,

10 that's where -- that accounts for the DDE concentrations that

11 you have surmised?

12 A. Yes, that their DDE is derived from the sediments.

13 Q. But white croaker on the Palos Verdes Shelf don't swim

14 from the Palos Verdes Shelf over to San Miguel, do they?

15 A. I don't believe so.

16 Q. And they don't swim to any of the northern Channel

17 Islands; right?

18 A. Correct.

19 Q. And do they swim to Catalina?

20 A. Not as far as I know.

21 Q. Okay. Now, just going back to Mugu Lagoon for a second,

22 what does that ultimately flow into?

23 A. It flows into the Southern California Bight.

24 Q. And the Southern California Bight is -- you mean the
25 ocean, the Pacific ocean?

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1 A. Yes.

2 Q. So that anything that was in the water that came past
3 those clams in Mugu Lagoon ultimately went out to the ocean;
4 right?

5 A. No.

6 Q. Where did it go?

7 A. Some portion of it likely went out. Some of it may have
8 been sequestered before it got to the ocean.

9 Q. But some portion went out to the ocean?

10 A. I would think so, yes.

11 Q. Now, what's closer to, say, San Miguel Island, Mugu Lagoon
12 or the Palos Verdes Shelf?

13 A. Mugu Lagoon is closer to San Miguel Island.

14 Q. And do you know whether there is any food available for
15 sea lions at Mugu Lagoon or in its environs?

16 A. I do not.

17 Q. You didn't study that?

18 A. The data available to us indicated that the species that

19 they prey on were not in the Mugu Lagoon.

20 Q. They weren't in Mugu Lagoon?

21 A. The data that I am aware of were for species --

22 Q. I'm sorry. Did you finish your answer?

23 A. The data that I'm aware of -- most of the data for fish in

24 Mugu Lagoon were for freshwater fish.

25 Q. What about the ocean water in the environs of Mugu

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1 Lagoon? Did you look at whether sea lions traveled to that

2 area to feed?

3 A. No, I did not.

4 Q. Now, I would like to return to the bald eagle model and

5 conclusions that you reached with respect to that model. And

6 earlier today, Ms. Hurley asked you about your opinion

7 concerning the source of DDE to the eagles on Santa Catalina

8 Island.

9 Do you recall that testimony?

10 A. Yes.

11 Q. And could you describe for me -- well, is there a

12 distinction as you've used it between the Palos Verdes Shelf

13 and the Southern California Bight?

14 A. Yes.

15 Q. Well, what's the distinction?

16 A. If we look at this demonstrative, the Palos Verdes Shelf
17 is just the area proximate to the Palos Verdes Peninsula. The
18 Southern California Bight encompasses the area from Point
19 Conception down to San Diego.

20 Q. And actually, you would include the Channel Islands, too,
21 within the area of the Bight; isn't that correct?

22 A. Yes.

23 Q. And at your deposition, you actually drew, didn't you, a
24 figure indicating that the area that I'm tracing with my wobbly
25 light pencil -- that constituted the Southern California Bight

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1 as you described it?

2 A. Yes.

3 Q. Now, with respect to the conclusions that you reached, you
4 did not identify the Palos Verdes Shelf in particular as the
5 source of contaminants to bald eagles on Santa Catalina; isn't
6 that correct?

7 A. That's correct.

8 Q. You just made the more general -- I'm going to withdraw
9 that question.

10 Judge, you wanted us to put back up the prior slide;
11 and then after that, I have just one more question and I'll sit
12 down.

13 THE COURT: All right.

14 (Pause.)

15 THE COURT: The one before that.

16 MR. ALLEN: The one before this? Was that the one
17 with the statement, Your Honor, from the report?

18 THE COURT: Yes.

19 MR. ALLEN: Yes. Okay. Santa Catalina Island.

20 (Pause.)

21 THE COURT: All right. Thank you.

22 MR. ALLEN: Is that it, Your Honor?

23 THE COURT: Yes.

24 MR. ALLEN: Okay. Thank you.

25 /

1 BY MR. ALLEN:

2 Q. Dr. Connolly, I would like to return to Trial Exhibit

3 19327, which we were looking at earlier, which were your
4 handwritten notes in connection with the work that you did in
5 this case.

6 A. Okay. -327, you said?

7 Q. No -- yes. 19327. It's the set of notes that you had.

8 A. Yes, I have it.

9 Q. You've found them?

10 A. Yes.

11 Q. Could you please turn to what's marked at the bottom as
12 PPX 2917.

13 A. Yes.

14 Q. And could you identify the -- I take it this is your
15 handwriting?

16 A. It is.

17 Q. And are -- these are notes, are they not, of a meeting you
18 held -- you attended at NOAA in Long Beach?

19 A. That's what they appear to be, yes.

20 Q. On March 8th, 1994; is that correct?

21 A. Yes.

22 Q. And is it correct that Dr. Cubit was present at the
23 meeting; correct?

24 A. Yes.

25 Q. And --

1 MS. HURLEY: Objection, Your Honor.

2 THE COURT: The objection is overruled. Let's see
3 what he's talking about.

4 BY MR. ALLEN:

5 Q. And Jerry George was present at the meeting, according to
6 your notes?

7 A. Yes.

8 Q. And you were discussing the modeling effort that you were
9 going to undertake at that meeting; isn't that correct?

10 A. I don't recall.

11 Q. Well, do you recall -- you recall having a meeting before
12 you actually submitted your report to NOAA concerning the
13 modeling work that you were going to do?

14 A. Concerning all the work that we were going to do.

15 Q. All the work you were going to do. You had that
16 meeting --

17 A. Yes.

18 Q. -- before you issued your 1994 report; correct?

19 A. I believe that's correct.

20 Q. And you had a discussion as to what items were going to --
21 according to your notes, it looks like you were having a
22 discussion about what items -- what was going to be addressed
23 in your report; right?
24 A. I don't interpret that --
25 Q. Well --

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1 A. -- that way.
2 Q. -- how would you interpret it? There is a discussion of
3 kelp bass in there; right?
4 A. Yes.
5 Q. There is Love's data. Who is Love?
6 A. Milton Love is a fisheries biologist.
7 Q. Yes. And has Milton Love prepared or done any studies on
8 white croaker in the Southern California Bight?
9 A. I believe so.
10 Q. And you actually cite his data and work in your report,
11 don't you?
12 A. Yes, I do.
13 Q. So what is your indication of what "Love's data is biased
14 to younger fish" -- what is your recollection of that term?

15 A. I have no memory of the discussion.

16 Q. Very well. And kelp bass -- you have no memory of
17 discussion? You address kelp bass in your report; isn't that
18 correct?

19 A. Yes.

20 Q. And you talk about feeding habits of kelp bass; right?

21 A. Yes.

22 Q. And you talk about the uncertainty in contaminant levels?

23 A. Yes.

24 Q. None of this helps refresh your recollection of discussing
25 the contents of your report with NOAA?

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1 A. I'm sorry. I don't remember the discussions that went on
2 at that meeting.

3 Q. And I would like you to turn to the next page of your
4 report -- I'm sorry. Not your report, but your handwritten
5 notes, page 2918. And halfway -- about a third of the way down
6 the page, do you see an entry there, "report"?

7 A. Yes.

8 Q. And why don't you read to me what's written next to the

9 first dash, after the first dash?

10 A. "Focus is on opinions and conclusions in support."

11 Q. And why don't you read the second dash for me, the next
12 entry.

13 A. "Advocacy" -- and I cannot read the next word.

14 Q. Would that word be "piece"?

15 A. It may or may not be.

16 Q. "Advocacy piece"; right?

17 THE COURT: He doesn't know. His writing is worse
18 than mine.

19 (Courtroom laughter.)

20 MR. ALLEN: We all suffer from the same problem,
21 because often I can't read my writing either, Your Honor.

22 BY MR. ALLEN:

23 Q. Dr. Connolly, is there anyplace that you can go to to pick
24 up a text on how you would do a bioaccumulation model similar
25 to the one that you have conducted here?

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1 A. Yes.

2 Q. There is a textbook that tells you what parameters to use
3 for sea lions?

4 A. No. There are texts that talk about the process of

5 bioaccumulation and how models are structured and what

6 equations you use.

7 Q. But in terms of the parameters, what goes into the model

8 and what values you assign to the model, are those explained

9 anywhere?

10 A. Those parameters are site-specific, so for every study

11 that you do, you need to go to the literature to determine the

12 information for the species that you are looking at and use

13 those to establish what the parameter values are.

14 Q. And those are judgments that you make in putting the model

15 together; right?

16 A. Judgments informed by the literature.

17 Q. But judgments nonetheless that you see a range of values

18 and you've got to select which one you put in; right?

19 A. Yes.

20 Q. And the values that you put in or the data that you put

21 into the model has an impact or can have an impact on the

22 results that you get from the model; isn't that correct?

23 A. Yes.

24 Q. And to end where we began, the model is only as good as

25 the information that you put into it; isn't that correct?

1 A. Yes. That's correct.

2 MR. ALLEN: No further questions, Your Honor.

3 THE COURT: Redirect?

4 REDIRECT EXAMINATION

5 BY MS. HURLEY:

6 Q. Dr. Connolly, I just have several clarifications. First

7 of all, I would like to direct your attention to the Figure

8 1-4, which has the handwritten notations on it.

9 A. Yes.

10 Q. Do you have that?

11 A. I do.

12 Q. This is a figure, according to its figure legend, that is

13 a graph of concentrations in mussels; is that correct?

14 A. Yes.

15 Q. Are freshwater clams mussels?

16 A. No, they are not.

17 Q. Dr. Connolly, could you, using one of the demonstratives,

18 show the court where the freshwater data, in fact, is on the

19 demonstrative?

20 MS. HURLEY: And, Your Honor, may we put up the

21 correct demonstrative? May Dr. Connolly do that?

22 THE COURT: Yes.

23 BY MS. HURLEY:

24 Q. Dr. Connolly, on this graph now -- on this chart, instead

25 of graphing just the mussel data, you have in fact graphed all

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1 bivalve data from the Mussel Watch Program; is that correct?

2 A. Yes.

3 Q. Could you point the court to exactly where those high

4 values in Mugu Lagoon are?

5 A. These are the high values in Mugu Lagoon (indicating).

6 Q. Dr. Connolly, do you recall Mr. Allen's discussion of what

7 he termed "an outlier" on data points for the sea lions?

8 A. Yes.

9 Q. Could you please explain why you included that value in

10 your analysis.

11 A. Yes. We were informed by David Garcelon that that

12 measurement was from a sea lion carcass that a bald eagle had

13 been observed feeding on. And given that bald eagle was

14 observed feeding on it, we judged it to be appropriate to

15 include it in the database.

16 Q. Do you recall approximately what that concentration value
17 was?

18 A. I think it was between 1500 and 1600 parts per million on
19 a fat basis.

20 Q. Dr. Connolly, I would like you to assume as a hypothetical
21 now that white croaker in fact -- excuse me -- that sea lions
22 do not in fact feed upon white croaker. Would that change any
23 of the opinions that you've expressed here today?

24 A. They would not.

25 MS. HURLEY: I have no further questions.

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1 THE WITNESS: It would not.

2 MS. HURLEY: I have no further questions, Your Honor.

3 THE COURT: Recross?

4 MR. ALLEN: I have nothing further, Your Honor.

5 THE COURT: Dr. Connolly --

6 MR. ALLEN: Your Honor -- I'm sorry, Your Honor. I
7 did have some documents that I wanted to move into evidence at
8 this time.

9 THE COURT: Okay.

10 MR. ALLEN: And that would be Trial Exhibit 19327,
11 which are Dr. Connolly's notes; 19325, which was that interim
12 briefing document with the prey for sea lions; and document
13 19338, which was Dr. Connolly's marked up version of
14 Figure 1-4.

15 THE COURT: Any objection?

16 MR. ALLEN: No, Your Honor.

17 THE COURT: In evidence.

18 (Trial Exhibits 19327, 19325 and 19338 received.)

19 THE COURT: Would you kind of just give me a little
20 indication of the -- what you believe to be the foraging range
21 of sea lions --

22 THE WITNESS: Sea lions.

23 THE COURT: -- in the Southern California Bight.

24 THE WITNESS: Female sea lions typically forage for
25 several days. Foraging trips can last maybe four days and they

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1 can cover 100 to 200 kilometers during any one of those
2 foraging trips, which can take them various places.

3 THE COURT: Do they always forage in deep water?

4 THE WITNESS: I don't believe that's true because sea

5 lions are occasionally found in shallow waters. I'm not an
6 expert, though, on the foraging behavior of sea lions.

7 THE COURT: Can you then make any conclusion as to
8 whether they forage around Catalina Island, for instance?

9 THE WITNESS: There are some sea lions that live on
10 Catalina Island, so there are sea lions there to begin with.
11 And dead sea lions wash up on Catalina Island and David
12 Garcelon observed bald eagles feeding on those sea lions, so
13 sea lions must move through this area and some of them die and
14 wind up washing up there.

15 THE COURT: Is there any way of telling where the sea
16 lion originates from where it is killed?

17 THE WITNESS: I don't believe so.

18 THE COURT: Anything further?

19 MR. ALLEN: Your Honor, I do have one further
20 follow-up question.

21 RECROSS-EXAMINATION

22 BY MR. ALLEN:

23 Q. Dr. Connolly, you did indicate in your report, did you
24 not, and previously in your testimony, that the contaminant
25 levels at Santa Catalina were too low to account for the DDE

1 levels in the sea lions; right?

2 A. The levels in the fish around Santa --

3 Q. Are too low?

4 A. -- are too low.

5 Q. So if the sea lions are at Catalina, hanging out at

6 Catalina, the ones with the high contamination must have come

7 from someplace else; right?

8 A. Yes.

9 MR. ALLEN: Thank you.

10 THE COURT: You may step down.

11 Call your next witness.

12 MR. MUELLER: Jon Mueller for the United States, Your

13 Honor.

14 We call Dr. Frank Gress.

15 THE CLERK: Please raise your right hand.

16 FRANKLIN GRESS, PLAINTIFFS' WITNESS, SWORN

17 THE WITNESS: I do.

18 THE CLERK: For the record, sir, would you please

19 state your full name and spell your last name.

20 THE WITNESS: My name is Franklin Gress. My last

21 name is spelled G-r-e-s-s.

22 MR. SIMSHAUSER: Your Honor, Peter Simshauser for
23 defendants.

24 Before trial started, we filed a motion in limine to
25 exclude Dr. Gress. Plaintiff stated in discovery responses in

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1 1997 that they don't seek recovery for injury to either brown
2 pelicans or double-crested cormorants, which are the two bird
3 species that Dr. Gress is here to testify about. And in light
4 of that, we don't believe his testimony is relevant to the
5 case.

6 I would be happy to hand up another copy of the
7 motion which attaches the relevant discovery responses, if Your
8 Honor would like to look at that.

9 THE COURT: It's not my lawsuit, it's yours. If you
10 want me to look at them, I will. Otherwise --

11 MR. MUELLER: Your Honor, Jon Mueller for the United
12 States.

13 With respect to the defendant's motion, they have had
14 the government's responses for over three years and have now
15 waited until the day of trial to make this motion, so we would
16 suggest that it is a little untimely.

17 Second of all, with respect to the testimony that
18 Dr. Gress is going to offer today, it is clearly relevant to
19 the decisions that must be reached by this court. Dr. Gress is
20 going to discuss the pelican crash that began in the mid to
21 late 50s and continued on through the 70s. And it definitely
22 addresses the issues of causation and pathway.

23 Dr. Gress has been studying pelicans for over 30
24 years and it's quite clear that the testimony that he has to
25 offer today is relevant.

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1 MR. SIMSHAUSER: Your Honor, given that CERCLA was
2 enacted in December of 1980, what happened back in the 1950S,
3 60s and 70s, I would suggest, is not relevant. And in any
4 event, there is nothing about brown pelicans and double-crested
5 cormorants in the pretrial order and there is no claim for
6 damages for these species.

7 THE COURT: Do you think that the actions of birds
8 and fish were affected by the enactment of CERCLA?

9 MR. MUELLER: The plaintiffs' ability to recover in
10 this action was, Your Honor.

11 THE COURT: I understand that. And the motion is
12 denied.

13 Before we start on this, Mr. Raushenbush, I have to
14 apologize to you. I had the wrong deposition for those pages.

15 MR. RAUSHENBUSH: Thank you, Your Honor.

16 DIRECT EXAMINATION

17 BY MR. MUELLER:

18 Q. Good afternoon, Dr. Gress.

19 A. Good afternoon.

20 Q. Could you please state your residence for the record,
21 please.

22 A. Yes. I'm from Davis, California.

23 Q. And what is your present occupation?

24 A. I'm a research biologist. I specialize in seabird
25 ecology.

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1 Q. And have you signed a witness statement or testimony in
2 this matter?

3 A. Yes.

4 Q. Okay. I would ask you to open the binder that's been in
5 front of you there that is marked "Testimony" and ask if that

6 is the testimony you have signed?

7 A. Yes, it is.

8 Q. And have you, since the signing of that testimony, made
9 some changes with respect to identification of exhibits in your
10 testimony?

11 A. Yes.

12 Q. And that is identified as an errata that follows your
13 testimony?

14 A. Yes.

15 Q. And you signed that errata?

16 A. I did.

17 Q. Also in the binder in front of you is an exhibit marked
18 3249. Could you please tell us whether that is a copy of your
19 most current curriculum vitae?

20 A. Yes, it is.

21 Q. And you have obtained a doctoral degree; correct?

22 A. Yes.

23 Q. And in what area of specialty is that degree in?

24 A. Ecology.

25 Q. Okay. And is there any specialty or subbranch of ecology

1 or area of study that you focus on?

2 A. Yes. As I said before, seabird ecology.

3 Q. And are pelicans seabirds?

4 A. Yes, indeed.

5 Q. Has one of the primary areas of your study been pelican
6 ecology and life history?

7 A. Yes.

8 MR. MUELLER: Your Honor, we would ask that Dr. Gress
9 be qualified as an expert in seabird ecology and pelican life
10 history and ecology.

11 THE COURT: Proceed.

12 BY MR. MUELLER:

13 Q. Are you familiar with the Pelican Recovery Plan for the
14 State of California?

15 A. It's the U.S. Fish and Wildlife Service. Yes, I am.

16 Q. And I would ask you to take a look at Exhibit 3323 and ask
17 you if you can identify that document for us please.

18 A. Yes, that's the document.

19 Q. Okay. And how are you familiar with that recovery plan?

20 A. I was a coauthor of that with Dr. Daniel W. Anderson, my
21 colleague, also from UC Davis.

22 Q. Did you write an expert report in this matter?

23 A. I did.

24 Q. I would ask you to take a look at Exhibit 4355 and
25 identify that for the record, please.

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1 A. Excuse me. Give me that number again.

2 Q. 4355. It may be in the back of your binder there.

3 THE COURT: The last thing in the big book.

4 THE WITNESS: I got it.

5 Yes, that's correct.

6 BY MR. MUELLER:

7 Q. Okay. And that expert report was entitled "Reproductive
8 Performance, Eggshell Thinning and Organic Chlorines in Brown
9 Pelicans and Double-crested Cormorants Breeding in the Southern
10 California Bight"; is that correct?

11 A. That's correct.

12 Q. Doctor, I wondered if you could tell us about the life
13 history of pelicans. Specifically, what do brown pelicans feed
14 on?

15 A. Primarily northern anchovy and also Pacific sardines and
16 Pacific mackerel.

17 Q. In your research of pelicans, have you studied their food

18 sources, like anchovy?

19 A. Yes, I have.

20 Q. What do anchovy feed on?

21 A. They're filter feeders. They feed on zooplankton.

22 Q. Do anchovies stay in one localized area or do they move

23 about?

24 A. I beg your pardon?

25 Q. Do anchovies stay in one localized area or do they move

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1 about?

2 A. No, they are a very mobile population.

3 Q. And where are anchovies found in the water column?

4 A. Well, they're considered a mid-water fish. They are

5 usually found in the upper few meters of the water column.

6 They can be found quite deep as well. For instance, at nights,

7 at times they can be found in, you know, 3-, 4-, 500 feet.

8 Also during times of El Nino, for instance, they can

9 be driven down to seeking cold waters, lower depths.

10 Q. Are pelicans on the same trophic level or feeding level as

11 peregrine falcons or bald eagles?

12 A. No, they are not.

13 Q. Would you say they are higher or lower on the food chain?

14 A. They're lower on the food chain. They have a much simpler
15 food chain.

16 Q. With respect to your studies of pelicans -- and I
17 understand that that's primarily been in the Southern
18 California Bight; is that correct?

19 A. Yes, it is.

20 Q. And have you studied the range of pelicans within the
21 Southern California Bight?

22 A. You mean do I know what the range is?

23 Q. Yes. And we'll put up a demonstrative here for you to
24 explain.

25 A. This particular map wouldn't give the entire range and I

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1 should probably mention what the range of the subspecies is
2 since that's what we are talking about.

3 The subspecies itself, the breeding range goes all the way
4 down to the Gulf of California and the Mexican mainland coast
5 and in the states of Sinaloa and Nayarit and also found on the
6 Pacific side of Baja California down to about Magdalena Bay,

7 which is about two-thirds of the way down the peninsula.

8 The Southern California Bight population, which is what we
9 are talking about, is shown on this map. The primary breeding
10 areas are on Anacapa. In fact, that's probably the most
11 consistent, largest colony in the Southern California Bight.
12 And on Santa Barbara Island; it's a much smaller colony. And
13 on Islas Los Coronados, which is about 12 miles south of San
14 Diego off the coast of northwest Baja California, that has been
15 a major colony in the past; and it's struggled a bit in the
16 last ten years or so, but still is considered one of the major
17 colonies.

18 And then there are several other more ephemeral colonies
19 that have been sites of pelican breeding -- excuse me --
20 breeding sites in past years that haven't been active in quite
21 a long time.

22 Q. Where do pelicans range in -- within the Southern
23 California Bight or that area that you just spoke of in the
24 non-breeding season?

25 A. Well, the non-breeding season, what happens is the birds

1 from Baja California start moving north. And they move north
2 beginning in -- it could be as early as the end of June, but
3 usually by the end of July, they start moving north. And most
4 of the pelicans we see at this time of the year are from
5 Mexico.

6 They start coming in into the Southern California Bight
7 waters when our birds on the Channel Islands actually are still
8 breeding; they haven't finished breeding yet. Those birds tend
9 to be a little more residential. They certainly can move too.

10 These birds aren't migrating; they are really dispersing.
11 It's kind of a post breeding dispersal. What they are doing is
12 they are following food as they go up the coast.

13 Q. And when you refer to "these birds," you're referring to
14 those from the Mexican waters?

15 A. Yes, I am.

16 Q. What about the pelicans that breed on Anacapa Island?

17 A. They tend to be a little more residential, but after the
18 breeding season, then they move as well, if there is no food in
19 the Channel Island area. They pretty much go where the food
20 is.

21 They can range all the way to Vancouver Island. We have
22 banded thousands of pelicans both in Mexico and in the Channel
23 Islands and we find them ranging as far north as Vancouver

24 Island and as far south as El Salvador -- non-breeding time.

25 Q. So for example, a non-breeding pelican from the Anacapa

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1 colony could range as far as the White's Point Palos Verdes

2 area in foraging; is that correct?

3 A. Easily.

4 Q. And in fact, have you recorded that kind of observation

5 for brown pelicans?

6 A. Well, the Long Beach breakwaters, for instance, are one of

7 the more favored places to roost. In fact, during the

8 winter -- and I should say during the fall and during the

9 winter, that's probably one of the more popular roosts in

10 Southern California waters.

11 Q. You referred to a pelican colony. Can you describe to us

12 what that is.

13 A. Well, a colony would be an assemblage of breeding birds; I

14 should say a breeding assemblage of birds at a particular site

15 at a single location.

16 Q. And with respect to the Anacapa colony, how large is that

17 been historically, as far as you know?

18 A. The breeding colony on Anacapa has -- well, it's quite

19 variable. I mean some years, especially in the years of the
20 early 70s, the population was quite low. And the recent
21 numbers -- let's say in the last 10 years, they have averaged
22 about 4,000 to 4,500 pair on Anacapa Island and 600 to 650 pair
23 on Santa Barbara Island. And on Los Coronados it's hard to say
24 because our data is a little sketchier there, but a good guess
25 or a good estimate would be between 500 and a 1,000 pair.

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1 Q. When did you first become involved in seabird research?

2 A. In 1968.

3 Q. And when did you first become involved in your study of
4 pelicans?

5 A. 1970.

6 Q. And what was your first research project involving
7 pelicans?

8 A. Working on the -- actually conducting an investigation of
9 the failing population of brown pelicans on West Anacapa
10 Island.

11 Q. And when was that?

12 A. 1970.

13 Q. And why did you study the Anacapa pelicans?

14 A. Well, there was a series of events that occurred over a
15 period of years in the late 1960s, beginning in about 1966,
16 when Dr. Robert Risebrough, who was at that time at the
17 Institute of Marine Resources at UC Berkeley, who I worked
18 under as a graduate student back then -- he had surveyed --
19 actually collected --

20 MR. SIMSHAUSER: Objection, Your Honor. Hearsay.

21 THE COURT: Beg your pardon?

22 MR. SIMSHAUSER: Hearsay.

23 THE COURT: The objection is overruled.

24 THE WITNESS: He had collected a series of seabirds
25 along the Pacific coast of California and found that the one

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1 pelican that he had in that series had quite high DDE levels in
2 its breast muscle. And that was one clue.

3 And then the following year, 1967, Dr. Daniel Anderson,
4 who is my colleague who I work with quite closely at UC Davis,
5 measured a series of eggshells. Actually, there were nine eggs
6 in the collection of the Western Foundation of Vertebrate
7 Zoology that were collected in 1962. And these eggs he found

8 were 26 percent thinner than historical eggshell thickness.

9 When I say "historical," I mean, say, pre-1943 eggshell
10 thickness. And that was another clue.

11 And then in 1968, there was a seabird survey conducted in
12 the -- throughout the Southern California Bight and one of the
13 objectives of this was to look at all pelican breeding sites
14 and determine what the status of brown pelicans was in that
15 year.

16 They looked at all these sites and found no pelicans
17 breeding in any other area except for West Anacapa Island. And
18 there they found approximately 200 pelicans breeding on West
19 Anacapa Island. And they returned at least twice to see if
20 there were any chicks that came from that colony and they could
21 not verify any breeding on West Anacapa Island even though
22 there were some older chicks; in other words, fledged flying
23 chicks that were on the island.

24 And since they had seen no chicks in earlier trips out
25 there, these would have had to have been Mexican migrants

1 coming up from Mexico. And the time of year was right for that

2 as well.

3 And then in 1969, again, my colleague, Bob Risebrough and
4 a group of other researchers had kind of taken all of this into
5 consideration and thought that there was a good possibility
6 that brown pelicans may be in trouble. And so they went to
7 West Anacapa Island, climbed up the steep slopes to get up
8 there, got into the colony and found it was a total
9 reproductive failure.

10 And what they found was that there were crushed eggshells
11 literally littering the whole colony and very few intact eggs
12 and no young at a time when you would expect to see literally
13 hundreds, perhaps a thousand young. On the island, there were
14 no young at all.

15 On subsequent trips, they found that breeders that laid
16 eggs thereafter also laid thin-shelled eggs. And I guess I
17 haven't mentioned this, but I should mention why they are
18 crushed is because the eggshells are so thin and pelicans being
19 what we call todapone -- that's a weird word, I know, but it
20 means that all the phalanges on their feet are forward and they
21 actually take their feet and they encircle the eggs instead of
22 incubating with their breast, they actually -- on the eggs with
23 their feet covering it. The feet are highly vascularized.

24 And so that if an egg was, say, any more than, say, 15 to

25 18 percent thinner than normal, then it would be easily

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1 crushed. And that's what they saw in the West Anacapa Island
2 colony.

3 Q. In your research of 1970, what did you see?

4 A. Let me back up a second and finish this.

5 What Risebrough and his colleagues did was they collected
6 a series of eggshells and took them back to his lab in Berkeley
7 and measured these eggshells and found that the average -- and
8 this was the average -- the average thickness of those shells
9 were half the normal -- a normal shell being a pre-1943 shell.

10 And some of these eggs still had yolk material
11 attached or actual yolks in the eggs in some cases that were
12 desiccated. In examining and analyzing the lipids of the
13 yolks, they found that there were incredible high levels of DDE
14 residue. I think, as I recall, the average was something like
15 1200 parts per million DDE on a lipid weight basis, which is
16 literally higher than what we see in any other seabird that I
17 can think of right now, either before or since.

18 So it was, to put it mildly, pretty devastating to see in
19 this colony, such a grand bird as this, the brown pelican, was

20 just unable to literally reproduce. What eventually came out
21 of that colony maybe, at the very most, four birds -- young
22 birds fledged and out of approximately 750 nests that year.
23 And then in the next year, 1970, then is when I got
24 involved with brown pelicans. And I went out to West Anacapa
25 Island to follow the breeding season because nobody had really

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1 seen this up close. There had been these monthly trips out on
2 West Anacapa Island.
3 Q. Excuse me for a second. When you say "up close," you mean
4 no one had actually gone to the island and spent a long period
5 of time there?

6 A. Exactly. And observing the whole breeding season, the
7 breeding cycle.

8 So I made fairly frequent trips out there. There were two
9 subcolonies on West Anacapa Island that year. One began in
10 March and the other began in April.

11 And when I got out there -- as I recall, my second trip
12 was the end of March -- that colony had pretty much already
13 been abandoned. And the next trip I had gone out there, as I

14 remember -- that was 30 years ago so it's hard to remember --
15 the next trip when I went out there was in April and the
16 colony -- there was another subcolony, another part of the
17 island. And it looked like it was having a pretty good start.
18 And that colony was just beginning.
19 And -- but within a month or so, it also was pretty much
20 gone. What I observed was brown pelicans. As they were trying
21 to incubate their eggs, they would crush the eggs and then mill
22 around the colony more or less, hopping on and off their nests,
23 things like this that you wouldn't see in normally a breeding
24 colony, and then fly off their nest until the colony was
25 abandoned.

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1 That year, there was one young fledged on Anacapa Island
2 out of 550 nesting attempts. And I also collected a sample of
3 eggshells and found that they were almost exactly the same
4 thickness as the ones that were collected in 1969. In other
5 words, about half thinner than normal.

6 And also did some analysis and found pretty much the
7 same sort of levels of DDE in those eggs.

8 Q. So did you take some -- collect some eggs from the island

9 while you were there in 1970?

10 A. Yes.

11 Q. And did you photograph those eggs?

12 A. I did.

13 Q. Okay. Let me refer you to Exhibit 3382, which I have put
14 up on the screen here for you, and ask you if you can identify
15 that.

16 MR. MUELLER: And, Your Honor, there are a series of
17 photographs in the binder identified as 3384 and 3386 through
18 -89, which were taken by Dr. Gress in 1970 and describe
19 visually what he just said orally.

20 THE WITNESS: Which one do you want me to describe?

21 BY MR. MUELLER:

22 Q. 3382, the one that is up on the screen, sir.

23 A. Oh, I'm sorry.

24 Your Honor, this photograph here depicts a normal egg,
25 which you see to the upper right. This was an egg, again a

1 pre-1943 egg from the collection of the Western Foundation for
2 Zoology. And the other two eggs -- you can't really see this.

3 I don't know if you have this or not.

4 THE COURT: I'll look at it.

5 THE WITNESS: You can see the crushed eggshells a lot
6 clearer in the photograph that I have right here, as a matter
7 of fact. But these are very thin shells. In fact, this bottom
8 shelf here was one that had barely a dusting of calcium
9 carbonate on it. Some of these eggs were so thin that you
10 could literally -- if they were intact, it would be like a
11 pillow of liquid. You know, you could put your thumb through
12 it almost. They were that thin.

13 And this egg at the bottom is one of those that were
14 particularly thin. These were all -- those two were collected
15 on Anacapa Island in 1970.

16 BY MR. MUELLER:

17 Q. As of result of your study in 1970, did you attempt to
18 learn what was causing this eggshell thinning in the pelican
19 falcon -- excuse me -- in the pelican?

20 A. Well, of course we were curious as to why these high
21 residues and we didn't know at that time. I think in the fall
22 of -- in the fall of 1970, we started hearing about the White's
23 Point outfall and the amount of DDT residues that were going
24 out the White's Point outfall. As I recall, that was in,
25 probably, about -- it was in the fall. I can't remember

1 exactly when it was, but --

2 MR. SIMSHAUSER: At this time, I'm going to object on
3 the grounds that this testimony is beyond the scope of the
4 witness's expert report and therefore is prohibited by Rule
5 26(a)(2)(b).

6 MR. MUELLER: Your Honor, Dr. Gress is merely
7 describing work that he actually did. He went out and
8 collected water samples from nine outfalls, including the L.A.
9 sewer system outfall. And he has, as we'll find out through
10 his testimony, published those in a peer-reviewed journal.

11 So he is basically restating facts; he is not
12 expressing an opinion.

13 MR. SIMSHAUSER: Judge, that's an article that is not
14 cited in his expert report, Your Honor.

15 MR. MUELLER: It is cited in his testimony.

16 THE COURT: The objection is overruled.

17 BY MR. MUELLER:

18 Q. Doctor, can you tell us what you did in your 1970 study of
19 the sewer outfalls?

20 A. Yes. We had been interested for some time -- when I say

21 "we," again I refer to Dr. Risebrough and myself and a person
22 who worked with us then, Mr. Timothy Schmidt -- we had been
23 interested in the amount of polychlorinated biphenyls that had
24 been going out to sea by the sewage system for quite some time
25 and we thought this was a good opportunity to kind of combine

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1 efforts and look at PCPs as well as DDT residues.

2 And so we decided to sample the sewage outfalls going --
3 the major sewage outfalls going out to sea from the Bay Area
4 all the way down to San Diego. And there were nine outfalls
5 altogether that we sampled.

6 And the outcome of that was that if -- excluding the
7 White's Point outfall samples, if you were to take all the
8 samples combined together, then the total amount of DDE would
9 amount to far less than one kilogram going out to sea per day.

10 The White's Point outfall itself, we found that the amount
11 of residues in that sample would amount to about 100
12 kilograms -- actually it was like 97, as I recall, going out to
13 sea just on a daily basis from that particular outfall. The
14 second highest in that series was at Hyperion, which, as most

15 of you probably already know, that is the City of Los Angeles
16 outfall.

17 The amount of residues that we saw in those samples would
18 have meant that there was about .05 kilograms going out per day
19 into the ocean. So the highest was 97 kilograms, the next
20 highest was .05 kilograms. And as I said, if you took all the
21 outfalls that we sampled together, it would be far less than
22 one kilogram per day going out to sea.

23 Q. I would ask you to take a look the Exhibit 3559 and if you
24 can identify that for us, please.

25 A. Yes. That's a copy of the paper that came from that

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1 work.

2 Q. Okay. And that paper was published in the literature?

3 A. It was.

4 Q. Okay. And you're a coauthor on that paper?

5 A. I am.

6 Q. Changing topics a little bit, Dr. Gress, have you compared
7 DDE residues in pelican eggs from the Channel Islands to eggs
8 laid in Mexico?

9 A. Yes.

10 Q. I would ask you to take a look at Demonstrative 67, which
11 is a portion of Exhibit 3563.

12 A. (Witness so complies.)

13 Q. Dr. Gress, could you explain to us what this table
14 represents?

15 A. Yes. These were brown pelican -- representing brown
16 pelican eggs that were collected in 1969, both from Pacific
17 coast and from essentially mostly Florida. And when I say
18 "Pacific coast," I mean from Anacapa as the farthest north
19 colony and Los Coronados and then San Martin, San Benitos, and
20 then as a comparison, the Gulf of California, which is
21 relatively unaffected.

22 And what we found here was that there is a gradient, a
23 north-to-south gradient. And as you see in total DDT and
24 p,p'-DDE both, there were very, very high levels at Anacapa and
25 Los Coronados. And in fact, as I mentioned before, these were

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1 some of the highest we've ever seen in any seabird species.

2 As you go southward, San Martin, San Benito, there are a
3 lot less of the total DDT and p,p'-DDE residues. And the Gulf

4 of California was fairly clean. There was hardly any
5 contamination there at all.

6 And if you look on the eggshell thickness column right
7 here, you will see that -- it's also a gradient, a
8 north-to-south gradient -- some extreme shell thinning here to
9 almost normal thickness at San Benito and normal thickness in
10 the Gulf of California. Again, as I said before, there are
11 very few residues in the Gulf of California so you wouldn't
12 expect or ever expect it to have any thin-shelled eggs there.

13 In Florida here the eggshells are showing about a 50 --
14 excuse me -- a nine percent -- nine percent thinning. And as
15 you see, there is very little residue in Florida eggs as well.

16 Q. Thank you. And the information that is represented there
17 in the table came from a paper that you coauthored with
18 Dr. Risebrough; is that correct?

19 A. Well, it was a paper that, this particular paper was a
20 manuscript. This was published actually. This was a
21 manuscript that we were going to write thereafter. And while
22 the table itself was published, the manuscript wasn't
23 published.

24 And I might mention one more thing while we have this out
25 here, and it's not on this particular table, is that

1 productivities followed this north-south gradient as well. In
2 other words, Anacapa, the productivity -- and what I mean by
3 productivity is the number of young birds fledged per nesting
4 attempt was very low, obviously, on Anacapa; nonexistent on Los
5 Coronados. Out of 375 nests, there were no young whatsoever
6 that were fledged from that island.

7 And then as you go southward, productivity increased and
8 again, as I said, there was no effect in the Gulf of
9 California. There was also what we consider normal
10 productivity. And San Benito, the productivity there as well
11 little affected. And in Florida, the productivity was not
12 affected whatsoever.

13 Q. Why did you study pelicans in Florida?

14 A. Would you repeat that question?

15 Q. On Table 1 there, you've got some values for pelicans and
16 eggs from Florida and I was wondering why you studied --

17 A. As a -- that's the eastern brown pelican and we compared
18 them just to see, you know, what the levels were like and to
19 see also if we got the same thinning of eggshells that we saw
20 on the West Coast.

21 We had no idea what the levels of residues were because in

22 Florida, they used a lot of DDT, especially in the coastal
23 areas in the swamps and such, for mosquito control and citrus
24 crops and things like that. And it seemed like -- I don't have
25 any data or immediate knowledge of this, but it seemed like

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1 there was a lot more DDT used --

2 MR. SIMSHAUSER: I move to strike, Your Honor.

3 THE COURT: The objection is overruled.

4 THE WITNESS: -- in these coastal areas. So we
5 thought it would be a natural thing, of course, to look at
6 those and to see, well, let's see if we see any effect on the
7 brown pelican eggs. And as you see, we didn't.

8 BY MR. MUELLER:

9 Q. In forming the opinions that you have presented in your
10 written testimony here today, have you considered studies which
11 have compared DDE concentrations in other organisms along the
12 California coast; that is, other than pelicans?

13 A. Well, we have seen similar gradients, like north or south
14 or north and south gradients in a number of studies in the
15 literature, studies that I have not been directly involved in.

16 But they are definitely well-known in the body of literature.

17 One -- I have to take that back now that I think of it.

18 There is one study of double-crested cormorants that I did. I

19 was senior author of the paper. And that does show a gradient

20 as well. The double-crested cormorants, which breed in right

21 among the pelicans on most of these islands I've been talking

22 about, were also very severely affected by the DDE residues and

23 their -- and eggshell thinning.

24 The double-crested cormorants had almost a complete

25 collapse on both Anacapa and Los Coronados Islands. And

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1 islands further to the south, they weren't as affected and the

2 productivity was better and shell thinning was lower.

3 Q. And when did that occur, the collapse?

4 A. That was also in 1969. But also, it lasted until -- and

5 we didn't see recovery for the double-crested cormorants in the

6 Southern California Bight until probably beginning about 1977

7 or '78.

8 Q. Have you also studied, for example, sand crabs along the

9 Southern California coast?

10 A. No, I haven't, but that's another one of the studies --

11 Q. Let me ask it this way, Doctor: Have you considered
12 studies concerning sand crabs along the Southern California
13 coast in forming the opinions that you have presented in your
14 testimony?

15 A. Oh, yes, indeed.

16 Q. On the easel is Demonstrative 62, which is a portion of
17 Exhibit 3328, a paper by Burnett et al. in 1971. And I would
18 ask if you can explain to us what is going on in that table in
19 the top right-hand corner.

20 A. This is a study of sand crabs that Robin Burnett from
21 Hopkins Marine Lab in Monterey collected over -- I believe it
22 was fall of 1970 into the early part of 1971. And he collected
23 from -- here is the map down here to match the peaks here. And
24 he collected from essentially the Bay Area, San Francisco Bay
25 Area all the way down to -- this is somewhat south of Ensenada

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1 in Baja California.

2 And he found essentially three peaks, here in
3 San Francisco Bay -- I should say what he did. He collected
4 the sand crabs from these beach area and analyzed them for DDT

5 residues. Now, total DDT, he found these three peaks, one here
6 in the San Francisco Bay, which you might expect because it's
7 the confluence of the San Joaquin and the Sacramento River and
8 major drainage, obviously, for agricultural areas.

9 And here is the second peak, and that's in the Salinas
10 River drainage area. And the third peak is here. This is off
11 White's Point. As you see, this is quite larger than the other
12 two.

13 Q. And what kind of scale is that that you are looking at
14 there?

15 A. This is -- this is a logarithmic scale, so you could
16 imagine what this peak -- this would be like a redwood tree,
17 you know, because if it were on a normal scale --

18 Q. When you say it was "like a redwood tree," you mean it
19 would go through the ceiling here?

20 A. This was about -- I think Robin said it was about 45 times
21 higher than these peaks right here. And these were actually
22 from agricultural drainage areas.

23 Q. And the sand crabs that were studied by Burnett, they were
24 taken in coastal areas; is that correct?

25 A. Right on the beach, yes.

1 Q. Did you also consider mussel data from the Southern
2 Coastal Water Research Project?

3 A. Yes. The mussels that were analyzed in the Mussel Watch
4 Program, State of California, also showed similar north-south
5 gradients.

6 Q. Did you study any gradient or concentrations in northern
7 anchovy or other fish?

8 A. Well, there had been some fish collections made again.
9 Dr. Risebrough in the mid 60s had a collection of fish and
10 found that the anchovies collected in Southern California had
11 higher residues than those from Northern California when in
12 fact he expected the opposite, especially those in the Bay
13 Area. Again, because of the confluence of the San Joaquin and
14 the Sacramento River, one would expect there would be more
15 residues going out to sea from that area.

16 But in fact, he found just exactly the opposite. He found
17 the higher residues in Southern California. And I believe John
18 MacGregor in his work as well with fish also found the
19 north-south gradients with the peak off the Los Angeles area.
20 This is with the little northern lampfish that he had quite an
21 extensive collection of and analyzed.

22 Q. Earlier you testified that the 1970 Anacapa colony, I

23 believe you said, only fledged one young; is that correct?

24 A. Yes.

25 Q. Now, subsequent to 1970, have you studied the fledging

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1 success of brown pelicans in Southern California?

2 A. Yes.

3 Q. Have you noticed any change in fledging success?

4 A. Well, the biggest change we noticed was, of course, right

5 after the input to the outfall of DDT residues ceased in 1970

6 and there was quite a dramatic decline, we found, in pelican

7 tissues in the next couple of years. We didn't see any

8 improvement in pelican productivity until 1974-1975.

9 So there was that light period there. But we did see in

10 eggshells a lowering of the level -- excuse me -- in the egg

11 contents, a lowering of those DDE levels and a mean eggshell

12 thickness increasing in time. But as far as the productivity

13 itself, we didn't really see any improvement until 1974 and

14 1975.

15 In 1971 and 1972, the situation was very much the same as

16 it was in 1969 and 1970 as far as the eggshell thickness,

17 again, the eggshells being about -- on average, about half
18 thinner than normal and also very high residues. But the
19 residue levels were lessening in time.

20 MR. MUELLER: Thank you, Dr. Gress.

21 At this time, Your Honor, I would like to move
22 Dr. Gress's testimony into evidence and all the exhibits
23 identified in his testimony as well.

24 I understand that the court has had some prior
25 rulings with respect to the expert report which is referred to

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1 in Dr. Gress's testimony. And to the extent that the court
2 decides to exclude the expert report as hearsay or whatever, we
3 would ask that the court allow the tables and other data that
4 are within Dr. Gress's report into evidence as summaries under
5 1006, Your Honor.

6 MR. SIMSHAUSER: Your Honor --

7 THE COURT: In evidence.

8 Yes.

9 MR. SIMSHAUSER: -- I don't object to that. I do,
10 however, object to Exhibit Numbers 3275, 3276 and 4359, which
11 are exhibits that were referenced within the report, on the

12 grounds that those are reports by withdrawn experts.

13 THE COURT: All right.

14 MR. MUELLER: Your Honor, with respect to the
15 information from withdrawn experts, the data contained in those
16 expert reports is data that Dr. Gress relied upon. And again,
17 the data is not hearsay. The data should not be withdrawn.

18 I can understand if the court rules that the opinions
19 found in those reports could be withdrawn. But again, we'd ask
20 that the data be admitted.

21 THE COURT: All right. In evidence.

22 And we will take up cross-examination after the
23 recess. Ten minutes.

24 THE CLERK: All rise.

25 (Recess taken.)

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1 THE COURT: Cross-examination.

2 CROSS-EXAMINATION

3 BY MR. SIMSHAUSER:

4 Q. Dr. Gress, in your testimony, you mentioned the current
5 breeding population of brown pelicans at Anacapa Island. You

6 agree today that the stable population of brown pelicans, which
7 is roughly twice as big as it was known historically, is an
8 indicator that the Southern California Bight ecosystem is
9 healthy; isn't that right, sir?

10 MR. MUELLER: Lack of foundation, Your Honor. There
11 is no evidence --

12 THE COURT: The objection is sustained.

13 THE WITNESS: I'm sorry. Are you waiting for me?

14 BY MR. SIMSHAUSER:

15 Q. Tell me again what the present size of the brown pelican
16 population at Anacapa Island is, sir.

17 A. Well, very conservatively, from year to year, depending on
18 food availability and other things, but as I said before, there
19 is a 10-year mean. For the last 10 years, it's about 4,000 --
20 between 4,000 and 4,500.

21 Q. And the historical number that you previously published is
22 what, sir?

23 A. There really is no historical number. I have to sort of
24 qualify the data that's out there, right now, because I think
25 it's misled a lot of people and, perhaps, even you when I was

1 deposited. The 2,000 that you see over and over in the
2 literature is really estimates that are made by people who go
3 out there, say, to collect eggs, say, back in the 30s or to go
4 up in the island for whatever and don't really do a complete
5 survey.

6 And I know from all the work I have done down there that
7 you have to really look at those pelicans. I don't think
8 anybody has done this until I did it -- is to look at the
9 breeding brown pelicans over a season, because they are so
10 asynchronous in their breeding. They can have several colonies
11 overlapping one another. And you could never go out there on
12 one day and expect to get a number. It would be misleading.

13 So a lot of that historic literature is misleading. There
14 are very few of those historic data that you see that are
15 accurate, because they didn't go over a whole season. So it's
16 really difficult for us to compare with that historical data,
17 because nobody really did that kind of -- the surveys, as I
18 have.

19 Q. Would you please put up Exhibit 19306.

20 The Exhibit 19306, for identification, is a paper that you
21 and Dr. Daniel Anderson published entitled "Status of the
22 Northern Population of California Brown Pelicans"; is that
23 correct, sir?

24 A. That's correct.

25 Q. And directing your attention to the second page of the

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1 exhibit, which is page 80 of the article, there is a statement
2 that says, quote:

3 "Historical data that is before 1969 are scant
4 and imprecise, but maximum historical
5 populations were higher previously than they
6 have been recently. Numbers at the Anacapa
7 Islands were perhaps 2500 pairs."

8 Did I read that correctly, sir?

9 A. You did and I don't disagree. This says "perhaps."

10 Q. Now, you agree that by 1981, DDE was no longer a major
11 contributory factor in reduced productivity of brown pelicans
12 in the Southern California Bight; isn't that right, sir?

13 A. I would probably say more like 1984.

14 Q. Do you recall I took your deposition in this case, sir?

15 A. Yes. I know you used that figure a lot. To tell you the
16 truth, I kind of went along with it, I guess. When I reread
17 the transcript, I realized that I probably should have

18 corrected that at the time because there were still, as I
19 recall -- I'm doing this from memory now -- but there was still
20 at least 13 percent -- I mean -- excuse me.

21 MR. SIMSHAUSER: Your Honor, I move to strike.

22 THE COURT: The motion is denied.

23 THE WITNESS: Again, as I was saying, in 1984, there
24 was still at least 13, 14 percent thinning. And I don't recall
25 what the residue levels were. I believe they were in the order

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1 of -- I would have to look it up, but they were still
2 relatively high.

3 BY MR. SIMSHAUSER:

4 Q. Now, when I took your deposition, sir, you were under
5 oath, like you are today; correct?

6 A. Yes.

7 Q. And directing you to page 96, line 16, I asked you a
8 question:

9 "Isn't it true, Dr. Gress, that by 1981, to
10 your view, DDE no longer was a major
11 contributory factor in reduced productivity of
12 brown pelicans in the Southern California

13 Bight?

14 "Answer: That's correct."

15 Did I read that correctly, sir?

16 A. Again, as I said --

17 Q. Did I read that correctly, sir?

18 A. You did.

19 Q. And you're not aware of any evidence to support the

20 proposition that brown pelicans are likely in the future to

21 suffer a lower fledgling rate as a result of DDE; isn't that

22 right, sir?

23 A. That's probably correct, unless there was some infusion of

24 DDT into the Southern California Bight area.

25 Q. The primary factor affecting fledgling rates in brown

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1 pelicans in the Southern California Bight is food availability;

2 isn't that right?

3 A. I would agree.

4 MR. MUELLER: Objection as to time, Your Honor.

5 THE COURT: The objection is overruled.

6 BY MR. SIMSHAUSER:

7 Q. Now, going back to the causation question, brown pelican
8 populations were reduced around the country in the 1960s and
9 70s; correct?

10 A. Could you repeat that, please?

11 Q. Brown pelican populations were reduced around the country
12 in the 60s and 70s; isn't that right?

13 A. Probably beginning in the 50s.

14 Q. That wasn't just a local phenomenon. It occurred around
15 the country; correct, sir?

16 A. There are other reasons for the reduction of populations,
17 say, in the Gulf Coast, like, for instance, Louisiana and
18 Texas. It wasn't caused by DDT.

19 Q. It occurred around the country; correct, sir?

20 A. It occurred, but for different reasons.

21 Q. And back in 1969, were you aware that in the Southern
22 California Bight, that was a major storm year, sir?

23 A. I have heard that.

24 Q. Now, your 1970 study didn't evaluate the amount of DDT in
25 any river runoff or in the California Current, did it, sir?

1 A. Of course not. We didn't consider it a source.

2 Q. You didn't investigate whether it was a source, did you,
3 sir?

4 A. That was 30 years ago. I don't recall if there were
5 storms in 1969 or not.

6 Q. And in 1969, DDT use was still legal in agricultural
7 areas; isn't that right, sir?

8 A. As far as I know.

9 Q. Do you know when the agricultural use of DDT was stopped?

10 A. When it was stopped?

11 Q. Yes, sir.

12 A. Agricultural field? I'm sorry.

13 Q. That was in 1972, wasn't it?

14 A. Yes, it was.

15 Q. Brown pelicans remain on the threatened and endangered
16 species list; isn't that right, sir?

17 A. That's correct.

18 Q. You, however, don't consider them to be either threatened
19 or endangered in the Southern California Bight; isn't that
20 right?

21 A. It's difficult to consider brown pelicans endangered in
22 the same sense, for instance, like the condor is. They are
23 still on the list. And as far as delisting or downgrading to
24 "threatened," that has been proposed by Fish and Wildlife

25 Service a number of times.

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1 Q. You don't consider brown pelicans to be either threatened
2 or endangered; isn't that correct, Dr. Gress?

3 A. Well, if I were to look at the criteria that we
4 established in the Brown Pelican Recovery Plan for reducing or
5 downgrading the status to "threatened," I would probably
6 consider them -- relative to that criteria, I would consider
7 them in the "threatened" category. But I realize that the
8 legal definition of "threatened" is probably somewhat
9 different.

10 Q. Let me direct --

11 A. I beg your pardon?

12 Q. Let me direct you to your deposition transcript, page 142,
13 beginning at line 14:

14 "Question: Do you believe today that brown
15 pelicans are endangered in the Southern
16 California Bight?

17 "Answer: Not at all."

18 "And do you see the definition of

19 'threatened'?

20 "Yes. It says, quote, 'Those species which are

21 likely to become endangered within the

22 foreseeable future.'

23 "Correct, sir?"

24 A. That's right, because --

25 Q. "Answer: That's right.

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1 "Question: Do you believe that brown pelicans

2 today are threatened in the Southern California

3 Bight?

4 "Answer: No."

5 Did I read that correctly?

6 MR. KUSHNER: Objection, Your Honor, to the extent

7 that the definitional quote of "threatened" is not alluded to

8 in the deposition transcript, so we don't know what he's

9 referring to with respect to "threatened."

10 THE COURT: The objection to that is sustained.

11 BY MR. SIMSHAUSER:

12 Q. Let's just look at lines 14 through 17 then, sir:

13 "Question: Do you believe today that brown

14 pelicans are endangered in the Southern
15 California Bight?
16 "Answer: Not at all."
17 Did I read that correctly?
18 A. You did.
19 Q. Now, as to double-crested cormorants, Dr. Gress, are you
20 aware that today they are numerous in Southern California?
21 A. Well, it depends on where you are talking about. I've
22 worked with double-crested cormorants and I happen to know what
23 their populations are like. And some of the islands on which
24 were former colonies, I wouldn't say were numerous.
25 On Anacapa Island, I would say that they are doing quite

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1 well and that's the colony that I follow most closely.
2 Q. And showing you Exhibit 19307, that's an article dated
3 August 25th, 2000 from the Los Angeles Times entitled:
4 "Frustrated Fishermen."
5 Have you seen that article before?
6 A. No, I have not.
7 Q. And directing you halfway down on the left-hand side of

8 the page, sir --

9 MR. KUSHNER: Objection, Your Honor. He has already
10 said he hasn't seen it.

11 THE COURT: The objection is sustained.

12 BY MR. SIMSHAUSER:

13 Q. In your expert report and testimony, Dr. Gress, you don't
14 attempt to quantify for the time since CERCLA was enacted in
15 December of 1980, the amount of any injury to brown pelicans or
16 double-crested cormorants; isn't that true, sir?

17 A. Could you please repeat that?

18 Q. In your expert report and testimony, you don't attempt to
19 quantify for the time since CERCLA was enacted in December of
20 1980 the amount of any injury to brown pelicans or
21 double-crested cormorants?

22 A. You know, I'm sorry. I'm still -- I didn't hear that
23 right.

24 Q. In your testimony in this action, Dr. Gress, you don't
25 attempt to quantify for the time since CERCLA was enacted in

1 December of 1980 the amount of any injury to brown pelicans or
2 double-crested cormorants; isn't that true?

3 MR. MUELLER: Objection, Your Honor. He is asking
4 for a legal conclusion here.

5 THE COURT: The objection is sustained.

6 BY MR. SIMSHAUSER:

7 Q. To what extent, if any, do you know whether brown pelican
8 populations have been reduced since December 1980 in the
9 Southern California Bight as a result of any DDT or DDE
10 contamination?

11 A. I wouldn't say that the populations have been reduced at
12 all. I think there is a level still in the population that
13 still is causing eggshell thinning up until mid-80s -- perhaps
14 1983, 1984, right around that area, but it wasn't causing any
15 population declines.

16 MR. SIMSHAUSER: I have no further questions.

17 THE COURT: Redirect.

18 MR. MUELLER: Just one matter, Your Honor.

19 REDIRECT EXAMINATION

20 BY MR. MUELLER:

21 Q. Dr. Gress, do you recall when Mr. Simshauser was asking
22 you a question with respect to the Schmidt, et al. paper from
23 1970, the outfall study -- do you recall answering some
24 questions about that?

25 A. Yes.

1 Q. And he asked you some questions about whether you
2 considered rivers as a source of DDT to the pelicans on
3 Anacapa?

4 A. Right.

5 Q. Do you recall also stating that you did not believe that
6 they were a source?

7 A. Yes.

8 Q. Can you explain what you mean by that, sir?

9 A. Well, if it were an event of 1969, why do we have thin
10 shells in 1962? Why did we have literally no breeding in brown
11 pelicans in the Southern California Bight in 1968? What about
12 the -- there is that paper that Dan Anderson -- Anderson &
13 Anderson paper did that showed essentially populations of brown
14 pelicans declining since the 50s. There's a lot of things that
15 happened before 1969.

16 Q. Just for a point of clarification, when you are referring
17 to the Anderson & Anderson paper, are you referring to the
18 Exhibit 3336, the 1976 paper entitled: "Distribution and
19 Status of Brown Pelicans in the California Current"?

20 A. That's correct.

21 MR. MUELLER: Nothing further, Your Honor.

22 MR. SIMSHAUSER: Nothing further.

23 We would move into evidence Exhibit 19306.

24 THE COURT: Any objections?

25 MR. MUELLER: No, sir. I believe it's also a

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1 plaintiffs' exhibit as well.

2 (Trial Exhibit 19306 received.)

3 THE COURT: Dr. Gress, do you have any opinion as to
4 what the population of brown pelicans would be if there had not
5 been a thinning of the eggshells in 1962?

6 THE WITNESS: Today, you mean?

7 THE COURT: Today.

8 THE WITNESS: It would probably be what it is right
9 now. I think that is probably -- I think the population is
10 probably pretty much maxed right now. I would be surprised to
11 see -- well, I did give you a 10-year mean. But during the
12 last 10 years, there has been a couple of years when you have
13 had 5- to 6,000 pairs on all the islands, the two or three
14 islands on which they breed on.

15 THE COURT: What do we have now?
16 THE WITNESS: 4,500 as of two weeks ago.
17 THE COURT: Where did all the anchovy go?
18 THE WITNESS: You mean, during the El Nino seasons,
19 where did they go then?
20 THE COURT: During the 50s and the 60s.
21 THE WITNESS: Well, the anchovies were -- they have
22 been around. It's the sardines that disappeared. The
23 anchovies is what we call the southern subpopulation of
24 anchovies is quite mobile. It moves all the way down past
25 Coronados Island, and it will move north to, say, Point

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1 Conception. It's fairly mobile. That comes and goes. And in
2 the El Nino years, like we had a couple of years ago, we had
3 very little breeding -- very little successful breeding in the
4 colonies of almost all seabirds, especially brown pelicans.
5 They were especially hard hit. And the anchovies simply were
6 gone. And they go deep. They go out to sea. They go north,
7 seeking cool water.
8 THE COURT: Can the bill of the pelican hold more

9 than its belly can?

10 THE WITNESS: No doubt.

11 (Courtroom laughter.)

12 THE COURT: Thank you.

13 Call your next witness.

14 MR. MUELLER: The United States calls Lloyd Kiff,

15 Your Honor.

16 THE CLERK: Would you please raise your right hand.

17 LLOYD KIFF, PLAINTIFFS' WITNESS, SWORN

18 THE WITNESS: I do.

19 THE CLERK: Please be seated.

20 For the record, sir, would you please state your full

21 name and spell your last name.

22 THE WITNESS: My name is Lloyd Kiff, K-i-f-f, as in

23 "Frank."

24 MR. SIMSHAUSER: Your Honor, I have a preliminary

25 question with regard to Mr. Kiff's testimony.

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1 This gentleman -- in the expert designation that the

2 plaintiffs produced in 1994 and 1997, they designated a single

3 report that he had done which relates to eggshell thinning in

4 seabirds of the Southern California Bight. Independently, at
5 the same time he was working on that paper, although
6 unbeknownst at the time to the defendants, he was working on
7 some other projects for the plaintiffs. And in his testimony,
8 he includes both the -- both testimony based on the report for
9 which he was designated and then roughly half his testimony is
10 based on work that was outside of the report for which he was
11 designated.

12 I don't want to be on the record too much bouncing up
13 and down making objections. Can I have a standing objection to
14 the extent his testimony is beyond the scope of his expert
15 report?

16 MR. MUELLER: Your Honor, with respect to the
17 document I believe Mr. Simshauser is referring to, it was a
18 literature review prepared by Mr. Kiff that summarizes over
19 100 -- close to perhaps 200 papers that address the issue of
20 eggshell thinning as it relates to all of the birds of concern
21 here. And just like with the defendants' files, which are
22 replete with work papers done by their experts, identifying
23 issues about the species of concern, Mr. Kiff did the same
24 thing. And if the court would peruse that document as we get
25 into examination of Mr. Kiff about it, you will realize that it

1 is probably the most definitive work on eggshell thinning that
2 has been put together with respect to the literature that's
3 extant at this point.

4 MR. SIMSHAUSER: I'm actually making a somewhat
5 different point, Your Honor.

6 If you could pull Exhibit Number 19308, and go to --
7 let's go to page 13 there, at the bottom of the page.

8 Mr. Kiff, you'll see, was designated with respect to
9 a paper entitled: "Eggshell Thinning in Birds of the
10 California Channel Islands." And that is Exhibit 4352, if we
11 could post that, please.

12 And separately from that and independent of what
13 Mr. Mueller just said, there is another paper relating to the
14 alleged effects of DDE on eggshells, which is Exhibit 3601, if
15 you could post that one.

16 My question to Your Honor, I would move to exclude
17 him to the extent he is attempting to -- in fact, do move to
18 exclude him to the extent he is attempting to testify that --
19 about subject matters that are not within the parameters of his
20 expert report, as required by Rule 26(a)(2)(b).

21 MR. MUELLER: Your Honor, the title of Mr. Kiff's
22 expert report is: "Eggshell Thinning in Birds." The court has
23 already held that eggshell thinning occurs as a result of DDE
24 contamination, especially in peregrine falcons, bald eagles
25 and, as we've just heard from Dr. Gress, in pelicans and

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1 double-crested cormorants.

2 So I don't understand how a document that summarizes
3 the literature upon which he draws his opinions is somehow
4 inadmissible or he can't testify about it, because that's the
5 nature of his testimony.

6 MR. SIMSHAUSER: The testimony in the report for
7 which he was designated is simply an evaluation reporting on
8 levels of thinning that were measured, because he has expertise
9 in measuring bird eggshells. And so he has got a report which
10 is his designated expert reported saying there's so much
11 thinning in this species at "X" location and that much thinning
12 at species -- in other species at another location.

13 But for him separately to put into his testimony
14 opinions about the effects of DDE on eggshells that were not in
15 his expert report is prohibited by Rule 26(a)(2), as are a

16 number of other subject matters that he refers to in his
17 testimony that were not in his designated expert report.

18 THE COURT: Well, were you furnished with this
19 document: "The Review of the effects of DDE on Birds with
20 Specific Emphasis on the California Channel Islands"?

21 MR. SIMSHAUSER: We were not furnished with it until
22 sometime before the deposition. But, Your Honor, regardless --

23 THE COURT: When was that?

24 MR. MUELLER: Two years ago.

25 MR. SIMSHAUSER: His deposition was in 1999.

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1 MR. MUELLER: Excuse me.

2 MR. SIMSHAUSER: At the end of the year. Less than a
3 year ago.

4 THE COURT: Isn't that actually a follow-up on the
5 opinion itself, as required by the rules?

6 MR. SIMSHAUSER: No, it's not, Your Honor.

7 MR. MUELLER: And that's exactly what we got from
8 their experts, Your Honor. We got a lot of summaries about
9 opinions they reached.

10 MR. KUSHNER: Your Honor --

11 THE COURT: Hold it. Hold it.

12 MR. SIMSHAUSER: Just so the facts are straight, Your
13 Honor, the report about which I am complaining was written in
14 June of 1994, three years before their expert designation, and
15 they did not include it in the expert designation. Under Rule
16 26(a)(2)(b), we are entitled to rely on the scope of the
17 witnesses' designation which the rule says: "Any opinion that
18 the expert is going to give shall be in the report."

19 All the -- 50 percent of the opinions in his
20 testimony are not in his designated expert report.

21 THE COURT: The objection is overruled. I think it's
22 within the parameters of Rule 26 for having to come forward
23 with any other material that's going to be used.

24 /

25 /

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1 DIRECT EXAMINATION

2 BY MR. MUELLER:

3 Q. Mr. Kiff, for the record, where do you currently reside?

4 A. I live in the country in Idaho, near a little town called

5 Star, Idaho, that is near Boise.

6 Q. And what is your current occupation?

7 A. I'm science director of the Peregrine Fund and that's a
8 nonprofit conservation organization headquartered in Boise,
9 Idaho.

10 Q. And how long have you worked for the Peregrine Fund?

11 A. Six years.

12 Q. And as science director, what are your responsibilities?

13 A. We have projects in, I think, 18 countries now, on five
14 continents, and I helped design the research programs there.
15 I'm in charge of the library. I review all the manuscripts
16 that are produced by our staff of 45 people before they go
17 out. I'm in charge of the systematic collections of bird
18 specimens. And I do some sweeping.

19 (Courtroom laughter.)

20 BY MR. MUELLER:

21 Q. Thank you. Prior to your beginning your work at the
22 Peregrine Fund, where did you work?

23 A. I worked for another nonprofit called the Western
24 Foundation of Vertebrate Zoology, and I worked for that group
25 for 26 years. And it was essentially a museum.

1 Then I was also the curator of ornithology at the L.A.

2 County Museum of Natural History for several years at the same
3 time.

4 Q. When you referred a minute ago to the Western Foundation
5 as a museum, what is it a museum of?

6 A. Well, it's avian collections. There is a big library,
7 perhaps the largest ornithological library in North America at
8 least, and the world's largest bird egg collection. And by
9 bird eggs in this context, I mean empty eggshells. And then
10 there are also 53,000 so-called study skins of birds, which are
11 stuffed birds.

12 Q. As part of your work at the Western Foundation, did you
13 study eggshell thickness in birds over time?

14 A. Yes, I did. When I first started there in '68, the news
15 that eggshell thinning occurred in wild birds had just broke.
16 So from about then on, I was involved in one way or another in
17 eggshell thinning studies.

18 Q. I would refer you to the binder that's in front of you,
19 sir, and would ask you to take a look at Exhibit 3250, if you
20 would, and identify that for us, please.

21 A. Maybe I'm looking at this backwards. It shouldn't -- does

22 the binder come before the item?

23 Q. In theory it should.

24 A. If you are talking about my expert testimony --

25 Q. I'm asking about your curriculum vitae.

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1 A. It's not in this binder.

2 Q. Exhibit 3250?

3 A. I don't find it here.

4 Q. We can get that later for you, sir, and ask you to

5 identify that for us.

6 A. I have found it. It's under the next section. Yes, it's

7 my personal vitae as of June 2000, and it looks complete here.

8 Q. Is that numbered in any way as an exhibit number?

9 A. Yes. It's numbered 3250. And with your permission, I'll

10 just put it under that.

11 Q. That's fine. Thank you, sir.

12 Okay. Have you provided written testimony in this matter?

13 A. Yes, I have.

14 Q. Okay. And I would ask you to take a look at the beginning

15 of that binder and identify that document for us, sir.

16 A. That appears to be my written testimony.

17 Q. Okay. And subsequent to the writing of that testimony and
18 your signature thereon, have you made any changes, errata,
19 identifying errors and references to exhibit numbers?

20 A. Yes. Yes, I have gone over these and signed it.

21 Q. Okay. Thank you.

22 Now, as you've just heard in the discourse before we you
23 began your testimony, you have provided an expert report in
24 this matter, haven't you, sir?

25 A. Yes, I did.

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1 Q. Okay. And is that identified as Exhibit 4352?

2 A. Yes. That's my report.

3 Q. And in that report, you provide a good deal of data or
4 tables with data identifying egg collections that were
5 measured, their thickness measured; is that correct, sir?

6 A. That's correct.

7 Q. Okay. And those are measurements that you or those
8 working for you performed?

9 A. That's correct.

10 Q. Now, also as we were talking earlier before your testimony

11 began, you prepared a literature review of eggshell thinning in

12 birds?

13 A. Yes.

14 Q. And I would ask you to refer to Exhibit 3601, if you

15 would, sir.

16 A. (Witness so complies.) Yes. That appears to be the

17 review.

18 Q. Okay. Thank you.

19 MR. MUELLER: Your Honor, at this time, I would ask

20 Mr. Kiff to be admitted as an expert in the area of eggshell

21 thinning in birds over time and the causes of eggshell thinning

22 in birds.

23 THE COURT: Go ahead.

24 BY MR. MUELLER:

25 Q. Dr. Kiff, why does one study the thickness of bird

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1 eggshells?

2 A. Well, one can do for it purely academic reasons which was,

3 of course, done in the last century right on up to the present

4 time. But the relevance to this case and my own involvement

5 was because of the DDE thinning effects on eggshells in many

6 species of wild birds. So this is a matter of great interest
7 to conservationists.

8 Q. All right. And folks found a correlation between DDE
9 levels and thickness in bird shells; is that correct?

10 A. Yes. This has been reported from many species all over
11 the world. I was just rereading my expert testimony, and I
12 believe the figure I had in there is -- there have been highly
13 significant correlations between egg DDE residues and eggshell
14 thinning reported in 37 species of birds and 14 different
15 families of birds.

16 Q. How many bird eggs have you measured or had folks working
17 for you measure?

18 A. Low tens of thousands. I can't really say. I was at this
19 for a long time.

20 Q. Referring back to the Western Foundation and its
21 collection of eggshells, what species of birds are covered in
22 that collection?

23 A. There are about -- anywhere between 9,000 -- 9500 species
24 of birds in the world presently, according to which system you
25 follow, and we had about half of them there. I would say over

1 4,000. And that may not seem like very many for the world's
2 largest collection. The collection, by the way, contains about
3 a million eggshells. And that may not seem like good species
4 representation, but it's still the largest in the world,
5 because the eggs of many species have never been described --
6 those mostly from tropical areas.

7 Q. When did you first began your study of eggshell thinning
8 in birds?

9 A. I think in a serious way, I probably first started around
10 1972. Although I have been at the foundation for a few years,
11 my first charge was to organize the collection. It had never
12 been organized before. And I was the only employee at that
13 time, so I was pretty much doing housekeeping for the first few
14 years.

15 Q. Have you examined pelican eggs from the Southern
16 California Bight for thinning?

17 A. Yes, I have.

18 Q. Okay. And are you aware of thinning in pelican eggs from
19 the Southern California Bight prior to 1969?

20 A. Yes.

21 Q. And how -- have you reported that information in your
22 expert report?

23 A. Yes. Information on some eggs collected on Anacapa Island
24 in 1962, they were referred to by Dr. Gress in the last
25 testimony. I do include data on those in my expert report.

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1 Q. Okay. And you actually measured those eggs?

2 A. Well, I supervised the measurement of them and it was a
3 remeasure of them and -- so, yes.

4 Q. And what were the results of your measurements?

5 A. They came out -- we found 12 eggs taken in 1962 by Raymond
6 Quigley, an egg collector, who coincidentally is the associate
7 curator of the Western Foundation Collections. And those eggs
8 averaged 26 percent thinner than the historical mean.

9 Q. And to your knowledge, is that information reported in the
10 Journal of Scientific Literature?

11 A. Yes. As I recall, Dan Anderson, who did so much work on
12 the brown pelicans -- and I believe he did a paper with Joseph
13 Hickey in which they include those measurements. I think the
14 paper is about 1970 and probably in the Wilson Bulletin. I
15 haven't looked at it for some years now.

16 Q. I would ask you to take a look at Exhibit 3337 and ask you
17 if that is the document you are referring to?

18 A. Did you say 3337?

19 Q. Yes, sir.

20 A. If these are in chronological order, I don't have a 3337.

21 Q. That's all right. We'll move on. Thank you.

22 To your knowledge, was it also reported in a paper by

23 Keith, et al. in 1970?

24 A. Yes.

25 Q. Okay.

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1 A. Jim Keith.

2 Q. Okay. And is that document at Exhibit 3349, sir?

3 A. Yes.

4 Q. Okay. Thank you. Now, have you studied eggshell thinning
5 in peregrine falcons?

6 A. Yes, I have.

7 Q. Is there some level of thinning that causes problems with
8 peregrine falcons?

9 A. There does appear to be a sort of a magic number of
10 sorts. Together with Dr. David Peakall, who is the British
11 biochemist, we looked at the fates of 30 different peregrine

12 populations around the world. I must inject as a footnote that
13 severe eggshell thinning has been reported -- I think the last
14 figure I saw in peregrine falcons is 36 countries.

15 At any rate, what we did, we looked at these populations
16 around the world, many different continents. And we looked at
17 their status. And we found that all of the populations that
18 showed more than 17 percent thinning -- eggshell thinning were
19 declining. Only one population wasn't, and that was the
20 managed population here in California, where the eggs were
21 really being hatched in a laboratory and the young being put
22 back out.

23 Otherwise, all of the populations that had less than 17
24 percent thinning were either stable or increasing. So on a
25 population basis, we thought, well, 17 percent is the magic

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1 number.

2 Then we went through a large sample of California eggs --
3 individual eggs of a thousand specimens. And we found, again,
4 17 percent was the LV 50 -- the point at which half of the eggs
5 would be likely to be break and half of them would be likely
6 not to break. Obviously, as you get thinner with these eggs,

7 they tend to break more. As they are less thin or thicker,
8 there's no problem. You can get down to a level where it
9 doesn't seem to affect them.

10 Q. We have been using a phrase "percent thinning." Could you
11 explain to us what you mean by that?

12 A. Well, in all of these DDE-induced eggshell thinning
13 studies, we rely on a historical baseline of the measurements
14 of eggs that were collected before the introduction of DDT.
15 There seems to be some disagreement between federal regulators
16 and the biological community about what was the magic year,
17 whether it was '46 or '47.

18 But we have typically -- in the biological literature, we
19 use the year '47 as the start point for DDT in the
20 environment. For purposes of this case, in some of my
21 testimony I have used 1946 because I think that's the way the
22 regs read or something.

23 Q. I would ask you to turn to Exhibit 4352, which is your
24 expert report, and Table 5 there, sir.

25 A. (Witness so complies.) Yes, I have it.

1 Q. Can you identify for us the level of thinning that you
2 found for peregrine falcons on the Channel Islands?

3 A. The level of thinning for a sample of 18 eggs or eggshell
4 fragments collected between 19- -- out there, I believe it was
5 1988 to 1993 involves -- well, Table 5 shows that 83 percent of
6 the eggs were so-called bad eggs, showing more than 17 percent
7 thinning. That leaves only -- out of that sample left only
8 three eggs that we would have predicted that would have
9 hatched.

10 Q. And do you know why that egg collection begins in 1988?

11 A. I knew of no breeding peregrine falcons on the islands
12 before then. I think there may have been attempts in 1987 but
13 they were unsuccessful. The eggshells weren't collected. But
14 I personally did some field work on the islands myself formerly
15 for the U.S. Air Force in connection with this proposed space
16 shuttle program at Vandenberg. And we were sent out to the
17 islands in the late 70s to go around in a boat and on foot to
18 see if we could find peregrines. In fact, there was a fellow,
19 Ray Quigley, who accompanied me on that and we found no
20 peregrines then.

21 And I was aware that all my friends who work on peregrines
22 were going to the islands all through the 80s and there were no
23 peregrines reported.

24 Q. Have you compared peregrines eggshell thickness in the
25 Channel Islands with other areas of California?

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1 A. Yes, I have.

2 Q. And are those results found in Table 6 of your expert
3 report?

4 A. That's correct.

5 Q. And what are your findings, sir?

6 A. Well, I found that the area with the thinnest peregrine
7 eggs was the Channel Islands. And then, as you go away from
8 the Channel Islands, progressively in distance inland or to the
9 north, the amount of eggshell thinning gets less. A
10 conspicuous exception are the two urban areas. As everyone
11 here knows, we now have peregrines nesting on buildings in L.A.
12 and in the San Francisco area on bridges. And those peregrines
13 show the least amount of thinning of any of the subgroups of
14 the peregrines in the whole state.

15 In fact, the ones here in L.A. for the period we measured
16 them, 1984 to 1992, were only at 10.7 percent then.

17 Q. Are you familiar with peregrine eggshell thickness in
18 other areas of the United States?

19 A. Yes, somewhat. This is part of my job at the Peregrine
20 Fund. I was involved in sort of an ad hoc way in helping
21 prepare the Federal Register Notice on the proposed delisting
22 of the peregrine. And as a part of that exercise with Fish
23 and -- U.S. Fish and Wildlife Service, a biologist -- I did
24 have to call around to every state to find out how your birds
25 are doing, how many pairs do you have, that sort of thing.

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1 So I have been following, in connection with that, the
2 eggshell thickness status in each of these states. There are
3 no problems by and large anywhere but in California and
4 probably coastal Oregon. There are some thinnings in the
5 east. But I was a coauthor of a paper on eggshell thickness in
6 eastern peregrines, all of which are derived from
7 pre-introduced populations. And as I recall, the thickness is
8 pretty low. It was way below the 17 percent.
9 I was also a coauthor of a paper on Arizona peregrines and
10 those birds barely showed any eggshell thinning at all. And
11 the last time I talked to my colleague, Dr. James Anderson, in
12 Colorado, who has been the guy who has done all the research on

13 peregrines there since the 60s, his last report was in the
14 Rocky Mountains, where they had severe problems formerly, that
15 eggshell thinning is only 10 or 11 percent now.

16 Q. Sir, have you also undertaken a study of nesting history
17 of raptors on the Channel Islands?

18 A. Yes, I did.

19 Q. And when did you undertake that study?

20 A. I did this in the late 1970s.

21 Q. I would ask you to take a look at Exhibit 3598, if you
22 would, sir and identify that document for us.

23 A. That's the paper that resulted from my study, and I
24 presented this orally at a symposium at the Santa Barbara
25 Museum of Natural History. And then they published the

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1 proceedings of the symposium in a volume. I think the year was
2 1980.

3 Q. Which birds did you study?

4 A. I studied three species of birds of prey out of several on
5 the Channel Islands, including the osprey -- and that's
6 o-s-p-r-e-y -- the peregrine falcon and the bald eagle.

7 Q. What was the purpose of your study?

8 A. Well, you know, I have done a lot of thinking about this.
9 In my lifetime, that's a long time ago -- 22 years probably
10 when I started on this. And as I recall now, at the time,
11 there was a vigorous academic argument raging between a couple
12 of my good friends: Jared Diamond at UCLA and Ned Johnson at
13 Berkeley. And they were arguing over a matter that is of
14 primarily academic interest, although it has some conservation
15 overtones. They were arguing over turnover rates of birds on
16 the Channel Islands; in other words, what's the ratio of
17 extinction rates to immigration rates.

18 Species have to get to islands from the mainland, usually,
19 and they don't last forever. They often burn out. So I was
20 distressed that Jared was using the many well-documented raptor
21 extinctions on the islands as part of his calculations. And I
22 was arguing, these are of anthropogenic origin and they
23 shouldn't be included in an examination of natural processes.

24 I brought this up to Bob Risebrough and Dan Anderson at
25 one time in conversation. And so they essentially said, well,

1 it would be a good project for you and so that's why I did it,

2 to find out when these species went extinct and was it at the
3 hands of man.

4 The specific purpose of that paper -- and this one here --
5 was to determine when these species went extinct. There was no
6 other purpose.

7 Q. How did you conduct your study?

8 A. Well, the first thing I did was to go to our museum
9 specimens, although most of these eggs in our collection out
10 there were taken by amateurs as a hobby. They never once
11 recorded sound scientific data on locality and the date they
12 collected them. They usually put a description of the nest on
13 a little card that accompanied each set or each clutch of
14 eggs. So I went first there because those are hard items.
15 That's capital goods. They were from that place. You can
16 trust the data slips.

17 Then, I knew a lot of these guys. They were all in their
18 80s or 90s by then, but I went and talked to them about their
19 experiences. I went to the field notes of the ones who were
20 dead, and then I went to the literature. And then, finally, I
21 talked to people who lived on the island or who had lived there
22 during the periods when those birds of prey were present, or at
23 least some of them. And, of course, I talked to various
24 visitors who went out there. I grabbed everyone's field notes

25 I could come across.

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1 Q. Was your paper designed to determine baseline populations
2 of the raptors --

3 A. No. And if I had set it up that way, I would have been a
4 real dummy. Because you can't establish actual population
5 sizes from these sorts of anecdotal data. They were not taken
6 in any systematic way. There was never any real survey of the
7 islands in the sense that we even do surveys now. And Frank --
8 Dr. Gress alluded to this with the pelicans. The same thing.
9 You know, these guys were farmers, most of them. And I'm not
10 saying they were dumb. It's just that they didn't go about
11 things in a systematic way.

12 Q. Now, the three raptors you studied, one of which was
13 eagles, what information did you find with respect to the
14 presence of bald eagles on the Channel Islands?

15 A. Well, I found what was already known from earlier
16 publications on Channel Islands birds that eagles formerly
17 nested on every one of the islands. There are eight Channel
18 Islands -- here we go.

19 And we -- I simply reconfirmed that fundamental fact. And

20 then I probed it as deeply as I could to find out when the
21 birds went extinct, because I knew they were extinct and that
22 they had been extirpated.
23 Q. Based on your research, do you have an opinion about how
24 many bald eagles were nesting at any one time on the Channel
25 Islands?

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1 A. Well, I have an opinion -- and I suppose it is based on my
2 research that has not been included in any of my reports,
3 because it would just be an opinion.

4 MR. SIMSHAUSER: I object, Your Honor.

5 THE COURT: The objection is overruled.

6 THE WITNESS: If you want me to venture a guess as to
7 how many birds were out there, I'll be glad to do that.

8 MR. SIMSHAUSER: I object, Your Honor.

9 BY MR. MUELLER:

10 Q. I want your opinion, sir. Your expert opinion.

11 MR. SIMSHAUSER: I object, Your Honor. He said he
12 can only guess.

13 THE COURT: The objection is sustained.

14 BY MR. MUELLER:

15 Q. Mr. Kiff, to your knowledge, are bald eagles nesting on
16 any of the Channel Islands today?

17 A. No.

18 Q. There are no bald eagles nesting on the Channel Islands
19 today?

20 A. Not successfully.

21 Q. Okay. Thank you. So you take umbrage of my use of the
22 word "nesting"; is that right, sir?

23 A. Well, nesting to me implies reproduction, and there is no
24 reproduction on the island -- nor any island.

25 Q. With respect to your study of peregrines on the Channel

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1 Islands, what information did you find with respect to the
2 presence of peregrine falcons there?

3 A. Well, peregrine were present on all the islands apparently
4 as a breeding species. The only island where it's a bit
5 equivocal is San Nicolas. No specific nest was found there.
6 But it was clearly -- peregrines were clearly the big feature
7 of the islands.

8 Q. Did you determine that peregrine became extinct at some

9 point on the Channel Islands?

10 A. Yes. About the best I could do -- because there were so
11 few people on the islands in the 1940s reporting any
12 ornithological observations -- partly because of the war
13 effort, I'm sure. The best I can say about peregrines is that
14 they were reported as fairly common on the islands by Grannel
15 and Miller (ph) in their distribution of the birds of
16 California, which is our big baseline book for that period.
17 They were -- Grannel and Miller -- Berkeley professors. They
18 regard the species in the early 40s as being fairly common on
19 the Channel Islands. I really can't find any evidence other
20 than anecdotal evidence here and there that the birds survived
21 on the island past about 1950. And there weren't any
22 subsequent reports really until the early 60s. But in fact, I
23 went through --

24 There is a journal where people report bird observations
25 to the Audubon Society. And it's been published now since

1 1947. It's called "American Birds." I did a very detailed
2 analysis of all the regional reports for Southern California.

3 This journal came out six times a year in those years and four
4 times recently. And the earliest report I can find from the
5 Channel Islands in that journal which reports rare birds is
6 1974 on Santa Rosa Island. And so, therefore, people did have
7 sightings of peregrines right at the last of the 40s on a
8 couple, three islands. But otherwise, there is a total void
9 until about 1974. I infer from other sources, there may have
10 been some migrants recorded maybe in the 60s.

11 Q. The bird that you referred to being cited in 1974, was
12 that a resident breeding bird?

13 A. I don't know -- well, I'm sure it wasn't a breeding bird.
14 I know that much. I know the fellow who made the report, but I
15 can't say -- I can't remember what time of the year it was.
16 And if it was in the fall or winter, it could well have been a
17 migrant.

18 Q. In your studies, did you determine or see any evidence of
19 how many peregrines were reported on the Channel Islands?

20 A. The total?

21 Q. Historically.

22 A. I could only document nesting at 15 or 16 sites. And I
23 would add to that, I documented bald eagle nests at 35 sites on
24 the island.

25 Q. Sir, do you have an opinion about the occurrence of

1 eggshell thinning phenomenon, what caused that?

2 A. Well, we know pretty well with peregrines, since they're
3 the poster child of eggshell thinning, that DDE causes it. And
4 we can say the same for bald eagles. There is an enormous body
5 of evidence now connecting that compound or that contaminant to
6 eggshell thinning.

7 Q. And do you have an opinion about what caused the
8 extinction of peregrine falcons and bald eagles on the Channel
9 Islands?

10 A. I would conclude and have gone on record both in my
11 original paper and my expert testimony that it was the
12 introduction of DDT into this ecosystem out there that caused
13 the extinction of those birds, because they disappeared shortly
14 after the introduction of DDT. They appeared as far as we can
15 tell, especially the eagles -- they probably died out, out
16 there, about the end of the lifetime of birds that would have
17 been nesting there before DDT. We know that this is the
18 history of peregrines and bald eagles all over the country.
19 Throughout their range, they suffered eggshell thinning,
20 population declines. And we know that other birds -- where we

21 do have more evidence for the Channel Islands -- that there
22 were high residue levels in the eggs of other birds and
23 eggshell thinning in seabirds.
24 And the factors that operated against these species out
25 there were not operating on all of the islands at the same

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1 time. I'm talking about stochastic factors like shooting the
2 birds or poisoning the birds or doing this and that to them.
3 These were not consistent from island to island, so there was
4 no single factor like that that I can come across that would
5 have accounted for the disappearance of the bald eagle and the
6 peregrine at the same time.

7 In specific regard to the peregrine, I've only come across
8 two instances of peregrines being reported as shot on the
9 Channel Islands, and that was the same pair of birds -- a
10 single pair of birds on San Nic in, I think, 1947. Somebody
11 picked them up on the beach. But there was no persecution of
12 peregrines falcons out there like there was on the mainland,
13 but they went extinct on the mainland between about 1947 and
14 1952 in Southern California. And we have good very prolific

15 data on that, firsthand accounts from falconers and egg
16 collectors, photographers going into nests and finding broken
17 eggs and then no pair after a couple of three years.

18 So I have assumed -- and I think it's a very sound
19 assumption -- the same thing occurred on the Channel Islands.

20 Q. Since your research on the raptors of the Channel Islands
21 in the 1970s and published in 1980, have you done any further
22 research on the topic?

23 A. Yes, I did. I asked to be allowed to do this. And I
24 believe I began the project in '98. I just wanted to fill in
25 some gaps. You know, history is a never ending story. So you

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1 never run out of all your leads.

2 So I dug back in to these original data -- went through
3 them again. I interviewed more people who had been off the
4 islands. I found notes that I had not discovered before, but I
5 couldn't add a single pair of birds to my records. I did find
6 10 more egg sets had been collected that I didn't know about
7 earlier for bald eagles. I didn't discover any more peregrine
8 eggs that's been collected there. I now --

9 By the way, I compiled a computerized inventory of egg

10 collections of North American, published in 1985 and that
11 involved, I think, 72 collections and about half a million
12 birding sets. And I expanded this over later years to include
13 world collections. I have not come up with the money to
14 publish this yet. But I have the data from about 172
15 collections in that from all over the world. And I have not
16 found anymore egg sets of peregrine falcons taken on the
17 islands or from that exercise for bald eagles.

18 So at any rate, this story was the same. The one thing I
19 did find that was different is that I could confirm with the
20 nesting of bald eagles on four and probably five islands after
21 the introduction of DDT. And the latest record I have of an
22 actual nest is 1952, and that nest was observed by a bird
23 coming off the nest on Anacapa was observed by, I think, 38
24 people on a L.A. Audubon Society boat trip, so --
25 Q. Have you written up those findings in any documents, sir?

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1 A. Yes. I submitted them as a part of the body of evidence
2 in this case. And I don't know whether they are in this
3 exhibit book or not.

4 Q. Could you take a look at Exhibit 3603, sir, and identify
5 that document for us, please.

6 A. Yes. That's the report I'm referring to.

7 MR. MUELLER: Okay. Your Honor, at this time, I
8 would ask that the testimony of Mr. Kiff be moved into evidence
9 and all the exhibits identified therein.

10 And again, to the extent that the court rules that
11 his expert report is inadmissible as hearsay, we would ask that
12 the court include the tables in his expert report as summaries
13 admissible under Rule 1006.

14 MR. SIMSHAUSER: Your Honor, we only object to
15 Exhibit Number 4349, which was just those two reports done in
16 1994 and 1999 by a withdrawn expert, Walter Jarman.

17 MR. MUELLER: And, again, Your honor, with respect to
18 the data provided by Dr. Jarman, we would ask that that data be
19 admissible as a summary.

20 THE COURT: The data, yes.

21 MR. MUELLER: Yes, sir.

22 THE COURT: The report is admissible. In evidence.

23 Cross-examination.

24 /

25 /

1 CROSS-EXAMINATION

2 BY MR. SIMSHAUSER:

3 Q. Mr. Kiff, you don't know what the degree of eggshell
4 thinning in any species in the Channel Islands is today; isn't
5 that right?

6 A. That's correct. I don't know.

7 Q. The most recent for which you have an idea of the degree
8 of eggshell thinning is 1992?

9 A. Before I answer, let's go to my expert testimony. I can't
10 ever remember whether it was '92 or '93.

11 MR. MUELLER: Your Honor, the only objection I have
12 at this point is to the extent that there is any attempt to
13 elucidate --

14 THE WITNESS: '93.

15 MR. MUELLER: -- any information from Mr. Kiff with
16 respect to whether there has been any injury to peregrines or
17 bald eagles. The court has already found that.

18 THE COURT: The objection is sustained.

19 THE WITNESS: 1993 was my answer, if that's still
20 viable.

21 BY MR. SIMSHAUSER:

22 Q. You don't have the competence or expertise to determine
23 where birds acquire DDT loadings; isn't that right, sir?
24 A. By where, do you mean what prey item or what location?
25 Q. Both, sir.

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1 A. Well, I know they acquire these sorts of contaminants from
2 what things they ingest. As far as locality, from my
3 perspective as an eggshell person, I can only draw conclusions
4 on origins based on the degree of eggshell thinning, I say, in
5 the patterns of eggshell thinning in a broad area.

6 Q. With respect, for example, to peregrine falcons and bald
7 eagles on the Channel Islands in the 1940s or 50s, you don't
8 know whether the of their DDT was the White's Point outfall or
9 agricultural runoff, do you, sir?

10 A. No, I don't.

11 Q. In your expert report -- it's Exhibit 4352 in your
12 binder -- you compared 1992 seabird eggshell data from other
13 locations on the west coast with pre-1947 data from the Channel
14 Islands; is that correct?

15 A. Yes, I did.

16 Q. And the Channel Islands weren't the only location on the
17 West Coast where you found seabirds with eggshell thinning
18 exceeding 15 percent; isn't that right, sir?

19 A. That's correct.

20 Q. You say in the report, for example, that two-thirds of the
21 double-crested cormorant eggs from Goose Island all the way up
22 in Washington state had greater than 15 percent shell thinning
23 in 1982?

24 A. Yes.

25 Q. And likewise, a number of double-crested cormorant eggs

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1 from Humboldt Bay and the Russian River in Northern California
2 had more than 15 percent thinning; correct?

3 A. Yes.

4 Q. And the same is true of Brandt cormorant eggs that were
5 collected at the Farralon Islands?

6 A. That's right.

7 Q. Directing you, sir, to Table 6 of your expert report,
8 that's a table in which you present data on eggshell thinning
9 in peregrine falcons; correct?

10 A. Yes.

11 Q. And the according to your Table 6, peregrine falcons in
12 many areas of the State of California have greater than 15
13 percent eggshell thinning; isn't that right, sir?

14 A. Yes.

15 MR. MUELLER: Objection to "many."

16 THE WITNESS: Well, for this data set. I don't know
17 what the situation is now.

18 BY MR. SIMSHAUSER:

19 Q. Peregrine falcon in the northern interior of California
20 have greater than 15 percent eggshell thinning; correct, sir?

21 A. Yes. During that period.

22 Q. And the same is true of the southern interior of the north
23 coast and central coast of California; isn't that right?

24 THE COURT: You folks don't think I can read?

25 /

1 BY MR. SIMSHAUSER:

2 Q. Now, in your report and testimony, Mr. Kiff, you don't
3 present any analysis to show there is a statistically
4 significant difference between the levels of eggshell thinning

5 at the various locations in Table 6; isn't that right?

6 A. That's correct.

7 Q. Your testimony also contains a section on numbers of

8 peregrine falcons and bald eagles recorded at the Channel

9 Islands before 1950. You discussed that in your direct.

10 Let me take you back to that, sir.

11 A. Could you remind me of the exhibit number?

12 Q. Yes. It's 3598.

13 A. Thank you.

14 Q. You said on direct, sir, historically you found anecdotal

15 evidence of 35 bald eagle nests; correct?

16 A. Yes.

17 Q. And in your 1980 paper, you say the highest numbers of

18 active bald eagle nests reported or inferred from the available

19 data during a single year for the various California Islands

20 are as follows: And for Catalina Island, you say four nests;

21 correct?

22 A. That's correct.

23 Q. And you also say with respect to the population --

24 directing you to page 654 of the report, in the fourth

25 paragraph, you say that by the 1920s, the population had been

1 greatly reduced on the Channel Islands by human persecution;
2 correct?

3 A. That was specific to Anacapa and Santa Cruz, because, as I
4 recall, that was a quote from William Leon Dawson, and Dawson
5 himself was an egg collector and had paid to have some of the
6 eggs collected. But those were the only islands he was
7 familiar with.

8 Q. But also on San Miguel Island, one visitor, for example,
9 one visitor there saw 20 or more bald eagles nailed to the wall
10 of a barn in 1930; isn't that right?

11 A. Yes. It's just remarkable how they came back after that
12 when they got a better caretaker on the island.

13 MR. SIMSHAUSER: I would move to strike everything
14 after "yes," Your Honor.

15 THE COURT: Denied.

16 BY MR. SIMSHAUSER:

17 Q. It's not possible to specify the year that bald eagles
18 disappeared from most of the Islands because of the paucity of
19 recorded observations; isn't that right?

20 A. It's utterly impossible to determine to the exact year,
21 but I certainly know within two or three years for most of the
22 islands.

23 Q. And you can't testify what the population of bald eagles
24 at any of the Channel Islands was in 1946 before DDT began to
25 be used agriculturally in California; isn't that right?

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1 A. I can for with great confidence for a few of the islands,
2 the small ones. I can't at all for any period for any of the
3 large Islands. The coverage was just too poor.

4 Q. And Catalina is a large island; correct, sir?

5 A. That's correct.

6 Q. Let's turn to peregrine falcons for a moment.

7 A. Same exhibit?

8 Q. Yes. You say in your testimony that it's -- you can't
9 make reliable estimates of the size of the former peregrine
10 falcon breeding population at the Channel Islands; correct?

11 A. Could you direct me to the specific --

12 Q. It's at page 14, lines 23 through 25.

13 A. Page 14? I don't have -- I have page 664.

14 Q. In your written testimony.

15 A. Oh, written testimony. Sorry.

16 Q. Forgive me.

17 A. No, I really can't make a good estimate on peregrines. I
18 have to be upfront about that. I dug as hard as I could dig,
19 and there is just simply not enough evidence there to give one
20 any idea of the population size of peregrines. And as I say,
21 the bracket for when they went extinct, which was my purpose,
22 it is pretty broad, I admit. But it does not disagree with the
23 notion that the introduction of DDT could have been
24 incriminated in that.

25 Q. Showing you a demonstrative exhibit of defendants which is

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1 a map of the Southern California Bight, do you have recognize
2 that, sir?

3 A. The map or the region?

4 Q. Do you recognize what is shown on the demonstrative as a
5 map of the Southern California Bight?

6 A. Yes, I recognize that. I don't recognize the figures.
7 They are not my figures.

8 Q. And you see the names of the California Channel Islands
9 shown there?

10 A. Yes. Uh-huh.

11 Q. And there's two numbers next to each island on the

12 left-hand side, one number on the right-hand side, a number
13 that's highlighted?
14 A. Uh-huh.
15 Q. Yes?
16 A. Yes. That's correct.
17 Q. And will you confirm for me, please, that the numbers
18 shown on the left-hand side of each set of numbers represent
19 the number of historical peregrine falcon nests that were
20 recorded, according to your 1980 paper?
21 A. That's the numbers that were recorded -- were reported.
22 Q. Yes.
23 A. Yes. As far as I recall. That looks pretty good to me.
24 If it totals up to 15 to 16, it will be right. Yeah, that
25 looks pretty good.

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1 Q. And on San Clemente, nobody ever really saw them; correct?
2 A. Well, Linton was out there. C.B. Linton was a well-known
3 ornithologist in the early part of the century. And he
4 published a small paper in 1908, and he really saw birds at two
5 places and said in passing that they were nesting. And so

6 that's not -- he didn't provide measurements of the eggs or
7 anything like that. But Linton did say there were two pairs
8 there, and several other people -- many people found at least
9 one pair on San Clemente.

10 It should be noted there was no visitor -- ornithological
11 visitor that made any report from San Clemente Island after
12 1927 until recent years -- post war years.

13 Q. You don't say anywhere in your expert report or your
14 written testimony, Mr. Kiff, how many peregrine falcons or bald
15 eagles there would be today on the Channel Islands, absent
16 Montrose's DDT; isn't that right?

17 A. No. That's way outside of my expertise.

18 MR. SIMSHAUSER: Thank you. I have nothing further.

19 THE COURT: Redirect.

20 MR. MUELLER: No, sir.

21 THE COURT: You may step down.

22 All right. We'll take our adjournment until tomorrow
23 morning.

24 And is there anything else to present on the question
25 of mass and source?

1 MR. MC NULTY: Your Honor, it is my understanding
2 that that part of the case was submitted yesterday.

3 THE COURT: Yes. Anything else to present.

4 MR. MC NULTY: Well, there is actually one other
5 thing, Your Honor. Defendants today filed two motions under
6 52(c) on that. We would ask that these be stricken. First of
7 all, the matter was submitted yesterday and local rules don't
8 provide for any posttrial briefing unless you ask for it. So I
9 think that these are inappropriate and should be stricken.

10 MR. RAUSHENBUSH: Would you like a response, Your
11 Honor?

12 THE COURT: Yes.

13 MR. RAUSHENBUSH: I believe we are entitled -- I'm
14 sorry, Richard Raushenbush.

15 I believe that we are entitled to make a motion for
16 judgment as a matter of law at the close of plaintiffs' case if
17 they fail to present sufficient evidence to carry the day, and
18 that's what we have done.

19 THE COURT: I'll have a ruling tomorrow morning.

20 MR. ALLEN: Your Honor? Jose Allen.

21 I just wanted to cover just a housekeeping matter.
22 Your Honor has been very indulgent with the court's time, and
23 we were just trying to get a sense of the schedule that remains

24 to be covered with the plaintiffs' case so that we can know
25 what kind of time we have left as well. So I was wondering --

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1 THE COURT: How much time do you need?

2 MR. MC NULTY: Your Honor, we have approximately
3 three more witnesses that will deal with the rest of the
4 transport and the pathway and will also talk about restoration
5 of the birds and fish.

6 And after that, we have the EPA costs, and then the
7 damages assessment costs, and then lost use and resources. So
8 depending on -- we think, at least, for the EPA cost portion
9 and damage assessment costs, that should move rather quickly.
10 There are a number of witnesses associated with those, but I
11 would expect that --

12 THE COURT: You're talking about two more days of
13 testimony?

14 MR. MC NULTY: I would say, one of the matters is the
15 audit hearing on DOJ costs. I'm not sure exactly what you want
16 to do with that, but I would expect a day, day and a half or
17 more of testimony if things progress.

18 Also, Your Honor, one other thing. It depends on
19 whether or not you split up the case again. But that's about
20 what we have -- day and a half, two days worth. And that's
21 it.

22 MR. GALVANI: Your Honor, just on that point, do you
23 contemplate that when the government finishes their testimony
24 on causation, then we would do our testimony on causation? Or
25 would the government continue on and then do its costs portion

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1 of the case?

2 THE COURT: They will finish their case and then you
3 can finish your case.

4 MR. GALVANI: So they will finish their entire case?

5 THE COURT: Right.

6 MR. GALVANI: With respect to the audit, just as a
7 personal question: Should I have present the auditor who
8 performed the audit?

9 THE COURT: I don't know. It's your lawsuit, not
10 mine.

11 MR. GALVANI: Thank you, Your Honor.

12 MR. ALLEN: Thank you, Your Honor.

13 THE CLERK: All rise.

14 (Proceedings adjourned.)

15

16 I CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT
17 TRANSCRIPT FROM THE STENOGRAPHIC RECORD OF
18 PROCEEDINGS IN THE FOREGOING MATTER.

18

19 DEBORAH D. PARKER, CSR OCTOBER 20, 2000

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24

25

1 UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
3 WESTERN DIVISION
4 ---
5 HONORABLE MANUEL L. REAL, JUDGE PRESIDING
6 ---
7 UNITED STATES OF AMERICA, et al.,)
8)
9 Plaintiffs,) NO. CV 90-3122-R
10)
11 vs.)
12)
13 MONTROSE CHEMICAL CORPORATION)
14 OF CALIFORNIA, et al.,)
15)
16 Defendants.)

12 _____)
)
13 AND RELATED COUNTERCLAIMS,)
CROSS-CLAIMS AND THIRD-PARTY)
14 ACTIONS)
_____)

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

18

Los Angeles, California

19

Friday, October 20, 2000

20

21

22

Volume 4

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1 LOS ANGELES, CALIFORNIA; FRIDAY, OCTOBER 20, 2000; 9:00 AM
2 (Proceedings in unrelated matter heard.)
3 THE CLERK: Item Number, 2 CV 90-3122, United
4 States of America, et al. vs. Montrose Chemical, et al.
5 Counsel, your appearances, please. Actually, I've
6 already got your appearances.
7 THE COURT: Yes.
8 Call your next witness.
9 MR. McNULTY: Your Honor, Mike McNulty for the
10 United States.
11 We call Brian Walton.
12 THE CLERK: Please come forward.
13 Please raise your right hand.
14 BRIAN JAMES WALTON, PLAINTIFFS' WITNESS, SWORN
15 THE CLERK: Please be seated.
16 For the record, sir, would you please state your
17 full name and spell your last name.
18 THE WITNESS: Brian James Walton, W-a-l-t-o-n.
19 DIRECT EXAMINATION
20 BY MR. McNULTY:
21 Q. Good morning, Mr. Walton.
22 Can you tell us where you work presently?
23 A. I work at the University of California at Santa Cruz.
24 Q. What's your position there?

25 A. I'm the coordinator of the Santa Cruz Predatory Bird

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1 Research Group, which is the Long Marine Lab.

2 Q. And can you give us a summary of your professional and
3 educational experience.

4 A. I went to college at Cal Poly, San Luis Obispo and got
5 a Bachelor's degree, and then I went to San Jose State
6 University and got a Master's degree.

7 Since that time I've been -- or just after that I
8 started working at UCSC. I've been there for about
9 twenty-five years.

10 I manage the Predatory Bird Research Group, which
11 involves work with endangered birds of prey like falcons,
12 eagles, condors, owls. I'm the principal investigator. I'm
13 responsible for hiring the staff, raising the funds and
14 directing the research.

15 I'm also the longest-standing member of the State
16 Peregrine Falcon Working Team and the State Bald Eagle
17 Working Team. I've been on the Condor Recovery Team for a
18 long time.

19 I've recently been put on the team to rewrite the
20 State's Species of Special Concern List, which is the list
21 of birds that are rapidly decreasing or have just come off
22 the endangered species list.

23 And I'm the person in this state who has the
24 endangered species permits and the state memorandum of
25 understanding for managing the peregrine falcon.

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1 And for the last thirty years I've been
2 researching and studying the peregrine falcon and so, as a
3 result, I've been to almost every nest in the state, and
4 undoubtedly have seen more peregrines than anybody else in
5 California.

6 Q. And have you published any articles or journals?

7 A. Yes. I published several scientific publications and
8 popular articles and completed reports for contracts and
9 then annually permit reports, the Fish and Wildlife Service
10 and the California Department of Fish and Game. And I wrote
11 the State implementation plan for the recovery, federal
12 recovery actions for the peregrine falcon.

13 Q. Can you describe that last article briefly.

14 A. It's just the plan for release and management

15 strategies, updated annually, for peregrine falcon recovery
16 activities in California as part of the overall federal
17 recovery actions.
18 Q. Have you prepared any reports for this particular case?
19 A. Yes.
20 Q. Let me direct your attention to Trial Exhibit 3528,
21 which should be in your binder.
22 A. Is this --
23 Q. Do you see it there?
24 A. Yes. That's my restoration and monitoring plan for
25 peregrines on the Channel Islands that I wrote in 1994.

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1 Q. And, briefly, what's the subject of that report?
2 A. It describes restoration and monitoring on the Channel
3 Islands to increase the population, at that time over a
4 twenty-year period, to reverse the effects of the damage.
5 Q. I direct your attention now to Trial Exhibit 3527.
6 A. Yes.
7 Q. And what is that particular report?
8 A. That's Natural History and Restoration of Peregrines in
9 California, which is a summary about peregrine falcon
10 natural history and the restoration efforts between, largely
11 between 1977 and when I wrote this in 1977.
12 Q. And let me direct your attention to Trial Exhibit 3529.
13 A. Yes.
14 Q. And is this another report that you authored?
15 A. Yes. It's actually an update that I wrote in 1999 to
16 that 1997 previous report I described.
17 Q. And can you just briefly summarize the contents of that
18 report.
19 A. It is largely information collected between the dates
20 of the writing of the first report in 1999 about peregrine
21 falcons on the Channel Islands.
22 Q. Can you give me a little more detail on what kind of
23 information you're talking about?
24 A. Occupancy of territories, productivity of nests,
25 eggshell thinning, the general natural history and

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1 population information that we collect each year.
2 MR. McNULTY: I would like to have Mr. Walton
3 qualified as an expert in the natural history, management
4 and restoration of peregrine falcons.

5 THE COURT: All right.
6 by MR. McNULTY:
7 Q. Mr. Walton, I'm going to show you a series of photos
8 which are trial exhibits in this particular case and ask you
9 to give a brief description of these items.
10 A. This is a photograph of a male peregrine falcon that we
11 possessed at U.C. Santa Cruz. It lived for about
12 twenty-five years. It's a bird that I've studied pretty
13 much all my adult life.
14 Peregrines are a unique animal in that they've
15 been in close cultural and natural history proximity to man
16 for two to three thousand years because of their ability to
17 be trained in the sport of falconry; and their propensity to
18 live near people. For example, they nest on the same cliffs
19 that the Native American cliff dwellings are on and, because
20 of their habit, they're able to be common in the area of
21 man.
22 They're known as the fastest flying bird and been
23 revered for centuries for their grace and beauty.
24 We study them because they're a very important
25 ecological indicator. And at one time they were on the

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1 verge of extinction, in spite of the fact that they're a
2 very adaptable bird with a nearly cosmopolitan range.
3 In California you can find them nesting on places
4 like El Capitan in Yosemite National Park on a 3,000 foot
5 cliff or out on the Channel Islands, like on San Miguel
6 Island, in a five- or six-foot cliff that any of us in the
7 courtroom could walk up and look into the nest.
8 Another very unique thing about the peregrine is
9 like this morning I was over at the Union Bank on Figueroa
10 where they also nest on skyscrapers.
11 So they're unique in that way, and they are also
12 unique in that they're one of the few species that reach the
13 verge of extinction and then has begun to make a recovery.
14 Q. And can you tell us something about -- I'm sorry.
15 Just for the record, this is Trial Exhibit 3536.
16 Can you tell us something about the prey habits of
17 the falcon?
18 A. Oh, peregrines are generalists, and since they're found
19 all over the world, they eat a tremendous variety of food,
20 but it's almost exclusive small to medium-size birds and
21 bats that they catch in the air, and that's why they're able
22 to nest in cities or nest on the island where they hunt over

23 the ocean or nest on the mainland where they hunt over a
24 forest or grassland, because they can catch birds in the
25 air.

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1 They nest on these large geological structures, be
2 it a cliff or a building or whatever, because they have to
3 have a safe place to lay their eggs.
4 But all over the world they tend to eat things
5 like doves and blackbirds, sparrows, swifts, swallows,
6 finches. In marine areas they also eat birds that aren't so
7 familiar, guillemots and auklets and phalaropes and gulls
8 and grebes, and things like that.
9 Q. The next picture I wanted to show you is Trial Exhibit
10 3544. Can you tell us what this particular picture is?
11 It's not the greatest.
12 A. Yeah. I think the picture in the book is more clear,
13 but it's a peregrine falcon egg with a dent in it, and one
14 of the aspects of the recovery program was to attempt to
15 salvage some of the thin-shelled eggs, and so we would go to
16 the nests and collect them and bring them back to the
17 University of California and hatch them in captivity in an
18 incubator, since the problem they suffered from was eggshell
19 thinning, not necessarily embryonic death.
20 And what happens is when the eggs are 20, 25
21 percent thin, whatever, they are rolled about by the
22 incubating adults; and since they don't build a nest, they
23 only lay their eggs on scrapes on cliffs or on buildings.
24 As they roll them around, if there's a sharp object or a
25 rock in the nest, it's possible to create a dent in the egg.

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1 Usually this would end up being a crushed egg. Eventually
2 an egg this thin would be broken by the adults.
3 But when we were salvaging them we would collect
4 them early in the incubation stage before they were all
5 broken. And an egg like this could have a dent where the
6 shell was broken, but the internal membrane was not. So we
7 could then put a little glue on the dent and put them in an
8 incubator with a very high humidity so they wouldn't dry out
9 because the shells being thin and porous, and then we'd
10 hatch some of those young and return them to the wild.
11 Q. Do you see the sort of bright circular marking in the
12 middle of that egg?

13 A. Right.
14 Q. What is that?
15 A. Well, that's the dent. It's where an adult peregrine
16 in the wild has rolled the egg over some object in the nest
17 or in some way caused a little indentation, and then we
18 placed glue on it.
19 Q. And what would you do with this particular egg?
20 A. Well, these eggs would be incubating in captivity and
21 then the young released later on.
22 Q. Okay. This is Trial Exhibit 3547. And can you tell us
23 what this is a picture of?
24 A. In my early years it was very difficult to find
25 peregrines, and when I did find them, most of the time the

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1 eggs were broken in the nests, or the eggs were addled,
2 meaning the eggs had died, and there were no young.
3 So this is just an example of a typical peregrine
4 nest, especially in the seventies or eighties where we, as
5 biologists would arrive with the attempt of doing some
6 management, and we would find an egg in the nest possibly
7 crushed or sometimes intact with little eggshell fragments
8 around.
9 And, as you can see, the surface of the nest is
10 very rough. I think you can get the feeling that if any egg
11 is much thinner, the last thing you want to have is a very
12 rough surface or rocky surface. So it's easy to see why the
13 birds would break them.
14 And what we would do is clean out the rough
15 surface of the nest, put sand in there --
16 MR. SIMSHAUSER: Your Honor, forgive me for
17 interrupting the narrative, but could we have some
18 clarification as to the time at which these activities would
19 occur?
20 THE WITNESS: Yes. The first time we collected --
21 the first eggs were collected -- the first fragments were
22 collected in California -- Well, first off, there are
23 historical egg collections that occurred, but the first eggs
24 that we collected were in the early seventies, and they
25 continue on till this day.

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1 So, at any rate, we would put sand in the bottom
2 of the nest and hope to increase productivity in the future;

3 collect the eggshell fragments for measurement by Lloyd Kiff
4 for the Western Foundation of Vertebrate Zoology; and
5 collect the egg for having the contents analyzed by
6 Dr. Robert Risebrough or Dr. Wally Jarman.

7 BY MR. McNULTY:

8 Q. You mentioned eggshell fragments that you saw in the
9 nest. Do you see any evidence of that here?

10 A. Yeah. There's little -- some of those little white
11 fragments, they're usually approximately a quarter of an
12 inch square, we would sift the substrate of the nest,
13 collect all the fragments that we could possibly collect so
14 that the following year there wouldn't be any from the
15 previous year there.

16 So the little objects in the front of the
17 photograph are actually -- some of those are eggshell
18 fragments. They're difficult to photo because they look
19 very much like the substrate often.

20 Q. Let me show you Trial Exhibit 3548. Can you tell us
21 what this is?

22 A. This is a female peregrine falcon that has a protective
23 hood over her eyes. They get most of the stimulus through
24 the eyes, so we put that on them to keep them calm.

25 And in the binder the photographs are a little

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1 better. You can see there's two bands on the legs, and all
2 of the birds that were hatched in captivity and were
3 released have a blue band on them. And then on the opposite
4 leg, either the left or right leg, there's a, what we call a
5 visual identification band, which is black that has number --
6 numerical and letter combinations, alphanumeric combinations
7 on there that we can identify the birds, to identify where
8 they were born and where are breeding. That's one of the
9 methods we use to determine dispersal distances and the
10 origin of breeders, for example, on the Channel Islands or
11 the destination of birds that fledge from the mainland that
12 arrive on the Channel Islands.

13 So we do several things. We band birds when
14 they're released, or if we capture them at nest sites, and
15 we identify them through these bands. Peregrines
16 fortunately are very tolerant to this sort of activity, and
17 we've never had any of the birds abandon the nest, and we've
18 never had any of the young we've released refused by the
19 adult falcons.

20 Q. One more further exhibit to show. It's in your book.

21 I don't have it with me. It's 3534.
22 (Pause.)
23 Are we all missing it?
24 A. My 3534 is the egg with the dent.
25 Q. I'm sorry. Let me direct your attention to 3544.

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1 THE COURT: His book is like mine, and we don't
2 have it.
3 MR. McNULTY: 3544?
4 THE WITNESS: I don't -- mine goes from 3536 to
5 -43.
6 MR. McNULTY: Your Honor, I have one copy of 3544.
7 Can I bring it up?
8 THE COURT: All right.
9 MR. McNULTY: I apologize for that.
10 THE WITNESS: This is a photograph of a female
11 peregrine that has scooted back into the nest at a site
12 where we've removed a broken -- I mean an addled egg and
13 just released two young that were hatched in captivity.
14 And it's of interest in that it's the sort of
15 typical nest that shows the nature of the substrate, and
16 it's also an example where these falcons, who are
17 monogamous -- they mate for life -- and they stay in the
18 same territories for a long time, have this instinctive
19 ability to select nest ledges. And this nest ledge is in
20 Avilla Beach, California. And this has occurred in many of
21 the territories where it was active in 1950, and then
22 thirty-five years later, as the recovery occurred, it was
23 reoccupied, and the birds laid, not only in the same
24 territory, not only on the same cliff, but they lay their
25 eggs in the same ledge.

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1 So that one of the things that facilitated our
2 ability to study these birds is that they have territories
3 that we can revisit, and we can monitor; we can follow them
4 up and see how their productivities -- accurately see how
5 they're doing, because they nest in the same place, and
6 they -- they're faithful to that same place, so we can
7 follow them for a long period of time.
8 Q. I'm sorry. Could you describe exactly what took place
9 prior to this photo.
10 A. Yes. These are two young we just placed in the nest,

11 and the female has scooted back past the climber after he's
12 placed the young in the nest.
13 Q. And what happened after this photo was taken?
14 A. Well, 100 percent of the young that we've -- This is
15 called fostering when you take captive young and replace it
16 with young -- 100 percent of those 300 and some odds birds
17 that we placed in peregrine nests over the years have been
18 accepted by the adults. We're very fortunate in the
19 management of predatory birds if they're very tolerate to
20 this of type of wildlife management activity.
21 Q. Now, the series of photos that I just showed you, how
22 do you know about these particular photos? Where do these
23 photos come from?
24 A. Yeah. I didn't personally take these, but I selected
25 them from the photo collection at the Predatory Bird Group,

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1 and they were all taken by people under my supervision over,
2 you know, the last ten or fifteen years.
3 Q. Mr. Walton, do you have an opinion about whether or not
4 the peregrine falcons are still injured in the Channel
5 Islands?
6 MR. SIMSHAUSER: Objection, your Honor.
7 THE COURT: The objection is overruled.
8 THE WITNESS: Yes.
9 BY MR. McNULTY:
10 Q. And what is that opinion?
11 A. They are still suffering from the primary cause of the
12 original decline, which is damage due to DDT, which results
13 in eggshell thinning.
14 Q. And do you have any information on the source of the
15 DDT?
16 MR. SIMSHAUSER: Objection, your Honor. This
17 witness has not been tendered as an expert in identifying
18 sources of contaminants. The witness on that point
19 yesterday was the prove-up person, Dr. Connolly. And at
20 Mr. Walton's deposition I specifically asked him about this
21 question, and he said he didn't have any knowledge.
22 "Question: I want to ask you about the DDE" --
23 THE COURT: That's cross-examination, Counsel. So
24 let's get to it.
25 THE WITNESS: I am required to have an opinion on

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1 sources of mortality in order to develop the annual release
2 strategy and philosophy for the recovery plan, and I've
3 relied for thirty years on the information from Dr. Robert
4 Risebrough for that information, and so my opinion that I
5 used in establishing next year's releases was his expert
6 report.
7 MR. SIMSHAUSER: Move to strike, your Honor.
8 Hearsay.
9 THE COURT: That motion is denied.
10 BY MR. McNULTY:
11 Q. And do you have a general opinion or an opinion about
12 the general source of DDT?
13 MR. SIMSHAUSER: Same objection.
14 THE COURT: The objection is overruled.
15 THE WITNESS: For the Channel Islands?
16 BY MR. McNULTY:
17 Q. Yes, the injury to the Channel Islands peregrine
18 falcons.
19 A. I didn't study the source, but I recognize there's a
20 larger input in that area than anywhere else around the
21 state.
22 Q. And let me direct your attention to Trial Exhibit 4368
23 in your binder.
24 A. Yes.
25 Q. And you mentioned just previously that you relied on

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1 Dr. Risebrough in your restoration efforts, the work that he
2 has done. Is this the report that you were referring to?
3 A. Yes. For thirty years I've interacted with him
4 discussing sources in the pesticide literature in order to
5 develop management plans and strategies for the release
6 program for peregrines. And this is the most current
7 written thing, although I do discuss things with him to keep
8 as current as possible, and this is what I used in my latest
9 efforts to plan the releases for next spring.
10 MR. SIMSHAUSER: Your Honor, I object and move to
11 strike on the grounds that the opinions contained in this
12 exhibit are the work product of an expert, deposed expert
13 who's been sworn.
14 THE COURT: That motion is overruled.
15 BY MR. McNULTY:
16 Q. Mr. Walton, just one last series of questions.
17 Have you developed an opinion on what the
18 restoration effort would be required to reestablish the

19 territories of the peregrine falcons in the Channel Islands?
20 A. Yes.
21 Q. And what is that opinion?
22 A. There's continuing damage there at a level as high as
23 occurs anywhere in North America. Originally I submitted a
24 plan in 1994, but I've revised it slightly because this is
25 really one of the first species to recover, and each year we

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1 gain more and more information on how the recovery is
2 working.
3 And as a result of the increase on the mainland
4 and as a result of our knowledge now that mortality is
5 slightly lower than we expected it to be, I've estimated
6 that a similar plan that I proposed in 1994, if conducted
7 for ten additional years instead of twenty, which I
8 originally thought, would be sufficient to increase the
9 population to a point where management would no longer be
10 needed, and that the input from the mainland and the larger
11 number of territories on the Channel Islands would be
12 sufficient that we could curtail management, and then the
13 natural process over the next decade so would allow birds in
14 that general overall region to reach the level of stability
15 or the maximum that it's going to arrive at.
16 Q. I'd like to ask you what both your goals are for this
17 restoration program and the process. Let's start with what
18 your goals are.
19 A. Well, there's two goals in peregrine recovery. One
20 goal is to simply remove the bird from the endangered
21 species list where it's no longer threatened or endangered
22 with extinction.
23 And after that goal is reached, the next goal is
24 to restore it, not just recover it, but to restore it to
25 some level of stability or some level of appropriate

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1 occupancy of the available habitat. And it's not possible
2 now to determine exactly what that number will be.
3 We know, through management in the past, that the
4 number vastly exceeds any of the historical antidotal
5 information we have. We also know that the reduction in DDT
6 in many areas and the change in culture where people no
7 longer persecute predators like they once did, where
8 peregrines are not shot by game wardens or bounty people or

9 wildlife services that the number is much larger than we
10 originally would have thought it was going to be.
11 So I don't have a specific number to predict or I
12 know enough that I can't predict how many there will be, but
13 there will be considerably larger number than there is there
14 now.
15 Q. And what is the process that you propose to accomplish
16 these goals?
17 A. We would continue releases. We've released about 160
18 birds in the general vicinity of the Channel Islands. We
19 would monitor the bird to determine if the pesticide damage
20 continues. We would determine the occupancy of territories
21 until all eight of the islands are occupied; until we
22 determine that there has been new territories established,
23 and then we would determine if there are any other
24 significant threats to that population.
25 Q. And I heard you mention earlier the fostering

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1 technique. Is this one of the techniques --
2 A. Yes. There's three basic techniques. One doesn't
3 apply to Channel Islands. That would be cross-fostering,
4 because we would cross-foster birds into prairie falcons,
5 which don't occur there.
6 The other two that we've used to release the
7 majority of the 900 birds that were released so far are
8 hacking, which is where birds are placed in a box on a cliff
9 or a tower fed surreptitiously by recent graduates --
10 students is basically what we use -- until they fledge on
11 their own and reach independence. And this is another
12 fortunate thing about peregrines in that this is an age-old
13 technique originally developed by falconers, and we've been
14 able to alter it and use it very successfully to get birds
15 released to the wild.
16 And then the other technique would be to foster
17 young into the nests that continue to fail, or where
18 productivity is low.
19 Q. How much is this going to cost?
20 A. The total cost for ten years would be \$5 million.
21 Q. And you've demonstrated that cost in your expert
22 report?
23 A. Right. In the 1994 restoration plan it was over a
24 twenty-year period, and now I'm recommending in my testimony
25 that that can be reduced to a similar effort, but it will

1 only require ten additional ten years.

2 Q. And can you just summarize briefly what the cost
3 components, the major cost components might be?

4 A. It's salaries for the monitoring and release staff, the
5 climbers who collect specimens or those sorts of things;
6 it's travel; it's some food to feed the birds while they're
7 being released; some equipment costs; and some university
8 overhead. And I think that's the large -- the general
9 categories.

10 Q. And you mentioned earlier that you had a twenty-five
11 year program that was designed to restore peregrines in the
12 entire State of California; is that right?

13 A. I don't think I mentioned that. You mean how long have
14 we been?

15 Q. Yes.

16 A. We've been -- the birds have been studied intensively
17 for thirty years, but the management program start date we
18 consider was in 1977, when we released the first two young.
19 So it's twenty-four years we've been conducting the work.

20 Q. What was the scope of that program?

21 A. That was for the State of California hacking, fostering
22 and cross-fostering birds; the release of 930 falcons, and
23 the breeding and captivity of the majority of those. And
24 that includes all the collection of eggshells and specimens
25 that have been analyzed and all of the restoration-related

1 activity and planning work.

2 Q. Do you recall how much money was spent on that program?

3 A. We have brought in almost \$10 million to the Predatory
4 Bird Group in that time, and 3,500,000 have been spent
5 specifically allocated towards restoration.

6 Now, we couldn't do the restoration if we didn't
7 have a predatory group there to begin with, but the actual
8 allocation of that portion of our budget is 3,500,000.

9 Q. And why, when you spent \$3.5 million over the last
10 twenty-four years, are you asking the Court for \$5 million
11 for a ten-year program?

12 A. There's many reasons. One of the parts about the
13 peregrine recovery, it's been a very cooperative effort, and
14 many people have been involved. Over half the hours spent
15 have been volunteer hours provided to people.

16 For example, Lloyd Kiff, who spoke yesterday, has

17 never charged us to do any eggshell analysis or any reports.
18 Dr. Risebrough's never charged us to analyze any of the
19 eggs. There's a tremendous amount of volunteer effort by
20 paid staff and associated -- and volunteer staff. Then we
21 often utilized, during the recovery, student labor. For
22 example, a hack site attendant would be paid \$750 to work
23 twenty-four hours a day, seven days a week for six weeks.
24 And those kinds of things aren't really going to
25 be duplicatable in a restoration program for damages

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1 specifically. It wouldn't be realistic to assume we could
2 ask people to volunteer for that job at the same level, so
3 that will increase the cost.
4 Many of our costs were incurred in the seventies
5 and eighties when people made a lot less money, equipment
6 cost a lot less. The world that we lived in was just a
7 cheaper place, so we did a lot of things much cheaper then
8 than we could now.
9 One of the problems with work on the Channel
10 Islands is logistics, which is very expensive to get out
11 there. Instead of driving down the Big Sur coast from Santa
12 Cruz in a truck and releasing the babies or doing the
13 monitoring, when it's on the Channel Islands we would have
14 to have a helicopter or an airplane, and there's just more
15 expenses associated with work on Islands than there is.
16 And then the equipment that we used early on was
17 often donated by mountaineering companies, or we had
18 vehicles donated and things like that. And even the ones
19 that we -- even the equipment, the lab supplies and things
20 we bought, those are all so more expensive now.
21 So the general expense, the increase, is that it's
22 more expensive to do things now, and we wouldn't be able to
23 use as much volunteer time -- volunteer help.
24 MR. McNULTY: Your Honor, at this time I'd like to
25 move into evidence Mr. Walton's testimony and the attendant

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1 exhibits.
2 MR. SIMSHAUSER: Your Honor, we object to
3 Exhibits 4349, 4351 through 4368 and 4378 on the grounds
4 that they are the work of stricken overtime.
5 MR. McNULTY: Your Honor, 4358 is the report by
6 Dr. Risebrough which Mr. Walton just testified he relied on

7 and collaborated with, and that should certainly come into
8 evidence.
9 THE COURT: Yes. Those are admitted only for
10 purpose of the -- to measure the expertise or the opinion of
11 the witness.
12 MR. McNULTY: That's all I have.
13 THE COURT: All in evidence.
14 (Trial Exhibits 3527, 3528, 3529, 3534, 3536, 3544,
15 3547, 3548, 4349, 4351 through 4368 and 4378 received.)
16 THE COURT: Cross-examination?
17 CROSS-EXAMINATION
18 BY MR. SIMSHAUSER:
19 Q. Mr. Walton, you said that you had released 160 birds in
20 the general vicinity of the Channel Islands. How many of
21 those birds did you actually release on the Channel Islands?
22 A. I don't remember the exact number off the top of my
23 head, but it's -- a rough estimate would be approximately a
24 quarter of them actually were released on hack sites on the
25 Channel Islands.

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1 Q. And over what time period was that?
2 A. The first releases on the Channel Islands were in the
3 eighties beginning on San Miguel Island, and the last
4 releases in that vicinity were this year. So over a twenty-
5 year period, or slightly under a twenty-year period.
6 Q. How many did you release on San Miguel in 1980?
7 A. If you want the exact number, I need to look at my
8 report.
9 Q. What's your best estimate?
10 A. I believe it's six, but it could be nine.
11 Q. Would you turn to page 23 of your expert report,
12 Exhibit 3527, please.
13 A. What number, please?
14 Q. Page 23.
15 A. No, I mean what's the --
16 Q. The exhibit number of your expert report is 3527.
17 A. My copy doesn't have a page number.
18 THE COURT: The last page number is 19 in mine.
19 THE WITNESS: Which page is it you're referring
20 to?
21 BY MR. SIMSHAUSER:
22 Q. I'm show you on the board.
23 A. Okay, I can find it.
24 (Pause.)

25 Okay, wait a minute. I thought you wanted the San

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1 Miguel numbers. This is Santa Catalina.

2 What was your first question? Did you ask me San

3 Miguel or -- I thought you said San Miguel when I answered
4 that last question.

5 Q. Why don't you back up to page 21, and we'll talk about
6 San Miguel.

7 A. Okay. I'm on that page.

8 Q. You show there that in 1985 and 1986 you released six
9 peregrine falcons on San Miguel Island; correct?

10 A. That's correct.

11 Q. And 1985, was that the first release on San Miguel?

12 A. Yes.

13 Q. So when you said 1980 a moment ago, you misspoke?

14 A. No. I said in the early eighties.

15 Q. And on page 23 you show the birds that were released
16 from the Catalina site; is that right?

17 A. Table 3, yes.

18 Q. And there's a total of sixteen birds there; is that
19 right?

20 A. Yes.

21 Q. Now, that's twenty-two birds, if you total those two
22 tables; correct?

23 A. Yes.

24 Q. And since preparing your expert report how many more
25 birds have been released on the Channel Islands?

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1 A. In the vicinity or actually on an island?

2 Q. On the Channel Islands.

3 A. Since preparing my report, none.

4 Q. So 22 out of the 160 were released on the Channel
5 Islands; correct?

6 A. Yes. I think it's approximately 160, is what I said.

7 Q. And when you say "in the general vicinity," you're
8 referring to the coastal area in Ventura County and Monterey
9 County; is that right?

10 A. That's right. They essentially can fly around the
11 release site and see the Channel Islands on a clear day.

12 Q. In response to certain of Mr. McNulty's questions, you
13 gave an opinion on the source of DDE in the peregrine
14 falcons at the Channel Islands.

15 It's true, isn't it, that your expert report
16 doesn't express any opinion on the issue of what portion, if
17 any, of the DDE in peregrine falcons at the Channel Islands
18 comes from different sources, such as DDE accumulated as a
19 result of agricultural runoff on the one hand, or DDE in the
20 Palos Verdes Shelf on the other?
21 MR. McNULTY: Objection.
22 THE COURT: The objection is sustained.
23 THE WITNESS: Does that mean I answer it?
24 THE COURT: No.
25 ///

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1 BY MR. SIMSHAUSER:
2 Q. Did you express any opinion in your expert report on
3 the issue of the source of DDE in peregrine falcons at the
4 Channel Islands?
5 MR. McNULTY: Same objection, your Honor.
6 THE COURT: The objection is sustained.
7 BY MR. SIMSHAUSER:
8 Q. You don't know, do you, sir, where the DDE in peregrine
9 falcons at the Channel Islands actually comes from; isn't
10 that right?
11 A. Yes, I know that it comes from the food that they eat,
12 which is birds that they catch in the vicinity.
13 Q. But you don't know where the birds get their DDE loads;
14 correct, sir?
15 MR. McNULTY: Just for point of clarification, you
16 mean the prey birds?
17 MR. SIMSHAUSER: Correct.
18 THE WITNESS: Well, they get it -- They
19 bioaccumulate it through their food web, so they would get
20 it from the seeds or the marine creatures that they eat.
21 The prey birds get it from the food that they eat.
22 BY MR. SIMSHAUSER:
23 Q. But you don't know where, at the base of the food web,
24 that DDE originates, do you, sir?
25 A. I have not studied that, no.

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1 Q. Now, you spoke a great deal about your work with
2 peregrine falcons over the years. It's true, isn't it, that
3 peregrine falcons were almost extirpated from the entire
4 country, not just the Channel Islands?

5 A. That is true.
6 Q. For example, the California population throughout the
7 entire state was reduced from more than 100 known pairs
8 before DDE usage to two known pairs by the early 1970's; is
9 that right?
10 A. That's correct.
11 Q. And you say in your written testimony at page 8, lines
12 6 and 7, which you signed in August of this year, that
13 peregrine falcons are being considered for delisting from
14 the Threatened and Endangered Species Act; is that right?
15 A. Where is that?
16 Q. Your written testimony at page 8, line 6 and 7.
17 A. Yes.
18 Q. And, in fact, more than a year ago, in August of 1999,
19 the peregrine falcon was downgraded off the threatened and
20 endangered species list; isn't that right?
21 A. That's right.
22 Q. And today the California population of peregrine
23 falcons exceeds 135 nesting pairs; is that right?
24 A. That's correct.
25 Q. And there are fifteen known pairs of peregrine falcons

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1 on the Channel Islands; is that right?
2 A. That's correct.
3 Q. Those are breeding pairs; correct? The fifteen known
4 pairs are breeding pairs; correct?
5 A. Yeah. There's fifteen breeding territories of pairs.
6 Q. We put up for you a demonstrative of Exhibit Number 3,
7 and will you confirm, please, that the numbers shown in
8 yellow beside each island reflect the number of pairs of
9 peregrine falcons at each of the respective islands.
10 A. This is somebody else's table, so I've never seen it
11 before.
12 Q. This is a demonstrative exhibit we prepared for trial.
13 Will you confirm, please, that the numbers in yellow shown
14 on that demonstrative are consistent with your reports of
15 the number of pairs of peregrine falcons at each of the
16 respective Channel Islands.
17 MR. McNULTY: Objection, your Honor.
18 THE COURT: The objection is sustained.
19 BY MR. SIMSHAUSER:
20 Q. Where are the breeding pairs of peregrine falcons at
21 the Channel Islands today; how many pairs are there --
22 MR. McNULTY: Objection.

23 THE COURT: Sustained.
24 BY MR. SIMSHAUSER:
25 Q. Where are the fifteen pairs of peregrine falcons at the

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1 Channel Islands?
2 THE COURT: The objection sustained. A waste of
3 time, Counsel -- 403.
4 BY MR. SIMSHAUSER:
5 Q. Directing you to Exhibit 3529 -- Withdraw.
6 In connection with the recovery effort of
7 peregrine falcons in the 1980's and 1990's, there was what
8 was known as the Peregrine Falcon Recovery Plan; is that
9 right?
10 A. There actually were several peregrine falcon recovery
11 plans.
12 Q. Was there one that was applicable to California?
13 A. There was -- Yes, there was the Pacific States
14 Peregrine Falcon Recovery Plan.
15 Q. And you're familiar with that document?
16 A. Yes, I'm familiar with it.
17 Q. And it set a goal for reoccupation of the Channel
18 Islands; is that right?
19 A. No. It set a goal for -- to be reached to remove the
20 bird from the endangered species list, recovery goal for
21 that purpose.
22 Q. And the recovery goal for the Channel Islands was five
23 pairs of peregrine falcons; correct?
24 A. I don't recall, but that sounds low to me. But I don't
25 recall.

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1 Q. Showing you Exhibit 19301 for identification,
2 Mr. Walton, do you recognize that document?
3 A. Yes, I do.
4 Q. What is it?
5 A. It's the Predatory Bird Group 1994 Activity Summary.
6 Q. And this is a document that was prepared by you and
7 Janet Linthicum; correct?
8 A. Yes.
9 Q. And would you turn, please, to page 9 of Exhibit 19301.
10 A. Okay.
11 Q. Do you see there's a table on that page?
12 A. Yes.

13 Q. And it identifies, among other things, the recovery
14 plan goal, minimum number of pairs per region or zone, in
15 the third column?

16 A. Yes.

17 Q. And on the preceding page there's --

18 THE COURT: Counsel, is this impeachment of this
19 man's testimony?

20 MR. SIMSHAUSER: It's cross-examination, your
21 Honor.

22 THE COURT: No. Is it impeachment of this man's
23 testimony?

24 MR. SIMSHAUSER: It is not.

25 THE COURT: If it's cross-examination, or it's in

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1 your case this is a question which this document, the fact
2 that he understands it and can read it to me or read it from
3 the board and can tell you what he reads, is still hearsay.

4 MR. SIMSHAUSER: I want to use the document he
5 wrote to refresh his recollection, your Honor.

6 THE COURT: There's no refreshing of recollection
7 needed. Let's get on with it.

8 BY MR. SIMSHAUSER:

9 Q. Mr. Walton, you don't say anywhere in your written
10 testimony or expert report how many more peregrine falcons
11 there would be at the Channel Islands today absent
12 Montrose's discharges of DDT; isn't that right?

13 (Pause.)

14 A. I don't specifically address that question, no.

15 Q. You personally haven't estimated the caring capacity of
16 the Channel Islands for peregrine falcons; isn't that right?

17 A. Have or haven't?

18 Q. Have not.

19 A. Personally. I believe I have expertise in that area,
20 and would say it's not possible to accurately predict the
21 caring capacity because humans cannot evaluate the habitat
22 the way falcons do, so, no, I haven't done that.

23 Q. And even absent any DDT input by Montrose, there still
24 would be agricultural inputs affecting the population --

25 MR. McNULTY: Objection, your Honor. This is well

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1 beyond the direct.

2 THE COURT: The objection is sustained.

3 BY MR. SIMSHAUSER:

4 Q. Now, of the fifteen known breeding pairs of peregrine
5 falcons on the Channel Islands, fourteen are on the northern
6 Channel Islands and one is on the southern Channel Island of
7 Santa Barbara; is that right?

8 A. I don't understand the distinctions between north and
9 south specifically, but I guess in a strict geographical
10 sense the three islands to the south are the three that
11 don't have pairs on them right now. They have peregrine
12 observations, but no breeding pairs.

13 Q. And historically there were more peregrine falcons
14 reported on the northern Channel Islands than on the
15 southern Channel Islands; isn't that right?

16 A. If you draw a line at the border and don't include any
17 of the Mexican islands and you stop there for some reason,
18 it would be accurate to say that Lloyd's antidotal
19 information includes more territories on those islands, but
20 we do not actually know the historical population on each of
21 those islands.

22 Q. And DDT or no DDT, the twelve known breeding pairs of
23 peregrine falcons on the northern islands today are the most
24 ever recorded on those islands; isn't that right?

25 MR. McNULTY: Your Honor, I'm going to object

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1 again. He just testified --

2 THE COURT: The objection is sustained.

3 BY MR. SIMSHAUSER:

4 Q. Now, you've looked at the reproductive success rate for
5 the peregrine falcons on the Channel Islands, and you're
6 aware that the rate there since 1992 has been essentially
7 the same as that throughout the rest of the state; isn't
8 that right?

9 A. No, I don't -- that isn't -- it might be similar to
10 some areas of the state.

11 Q. Remember I took your deposition. At your deposition I
12 asked you the question:

13 "Question: So the reproductive success rate on
14 the Channel Islands since 1992 has been essentially the same
15 as that throughout the state; isn't that true?"

16 MR. McNULTY: Your Honor, objection. That's what
17 he just testified to.

18 THE COURT: The objection is sustained.

19 BY MR. SIMSHAUSER:

20 Q. And it's true, isn't it, Mr. Walton, that at least

21 since the early 1990's the peregrine falcon population
22 nesting on the Channel Islands, and the region of which the
23 Channel Islands is a part, have produced sufficient
24 offspring to sustain and increase their numbers?
25 A. No, that's not true.

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1 Q. In your deposition I asked you the following question,
2 sir:
3 "Question: Indeed, Mr. Walton, since 1992 the
4 peregrine falcon population nesting on the Channel Islands
5 and the region of which the Channel Islands is a part has
6 produced sufficient offspring to sustain and increase their
7 numbers?"
8 THE COURT: Just a moment, Counsel. That's not
9 the question you asked him, and that's not impeaching to his
10 testimony.
11 BY MR. SIMSHAUSER:
12 Q. Isn't it true, Mr. Walton, that since 1992 the
13 peregrine falcon population nesting on the Channel Islands
14 and the region of which the Channel Islands is a part --
15 THE COURT: Don't do that. Please don't do that.
16 BY MR. SIMSHAUSER:
17 Q. And you don't know, do you, Mr. Walton, that the
18 productivity in the Channel Islands and surrounding region
19 is worse than in other regions of the state, such as the
20 northern interior, Sierra Nevada, north coast or in southern
21 Oregon; isn't that true, sir?
22 A. Could you repeat it one more time, please.
23 Q. You don't know that the productivity for the peregrine
24 falcons in the Channel Islands and surrounding region is
25 worse than in other regions of the state, such as the

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1 northern interior, Sierra Nevada, north coast or southern
2 Oregon?
3 MR. McNULTY: Your Honor, objection again.
4 THE COURT: The objection is sustained.
5 BY MR. SIMSHAUSER:
6 Q. The three islands without known breeding pairs of
7 peregrine falcons today are Catalina, San Clemente and San
8 Nicolas; isn't that right?
9 A. That's correct.
10 Q. And there actually are peregrine falcons occupying

11 habitat on Catalina and San Clemente, just not known
12 breeding pairs; isn't that right?
13 MR. McNULTY: Your Honor, we already went through
14 this, I believe.
15 THE COURT: The objection is sustained.
16 BY MR. SIMSHAUSER:
17 Q. Are you aware, sir, that since World War II San Nicolas
18 Island has been devoted to military uses, including intense
19 bombing?
20 MR. McNULTY: Your Honor, same objection.
21 THE COURT: The objection is sustained.
22 BY MR. SIMSHAUSER:
23 Q. You said the recovery of peregrine falcons at the
24 Channel Islands occurred later than elsewhere; correct, sir?
25 MR. McNULTY: Your Honor, for clarification --

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1 MR. SIMSHAUSER: I withdraw the question.
2 BY MR. SIMSHAUSER:
3 Q. You said that recovery and restoration efforts for
4 peregrine falcons at the Channel Islands occurred later than
5 elsewhere; is that right?
6 MR. McNULTY: Again, your Honor, if he's referring
7 to his testimony, may he look at his testimony?
8 THE COURT: Certainly.
9 THE WITNESS: That's such a general question I'm
10 not -- I mean, later than everywhere else, or later than one
11 other place?
12 Q. Other areas of California, sir.
13 A. The answer to that is it occurred at the same time in
14 some areas and later than other areas.
15 Q. Let's me ask you a couple questions about your
16 restoration proposal, Mr. Walton.
17 Showing you Exhibit 19303 for identification. Do
18 you recognize that?
19 A. It's not my restoration. It's an annual report; what
20 we refer to as our Predatory Bird Group Annual Report.
21 Q. Do you recognize that document? You helped prepare --
22 Withdrawn --
23 You helped prepare that document; correct, sir?
24 A. Yes, uh-huh. I supervised the preparation of it.
25 Q. And directing you to page 11 in the paragraph that's

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1 highlighted on the board --
2 A. Yes.
3 Q. -- you said that by the end of the 1992 season, the
4 Santa Cruz Predatory Bird Research Group had released 800
5 peregrine falcons in the western states; correct?
6 THE COURT: Almost 800.
7 MR. SIMSHAUSER: Thank you, your Honor.
8 THE WITNESS: Is that correct?
9 MR. SIMSHAUSER: Yes.
10 THE WITNESS: Yeah. Yes, it is.
11 BY MR. SIMSHAUSER:
12 Q. And directing you to the last page, the last paragraph
13 on that page, you said that you essentially had completed
14 the reintroduction program in 1992; is that right?
15 A. Yes.
16 Q. And directing you to the bottom of page 18 of Exhibit
17 19303 for identification, you said that "While populations
18 of the peregrine falcons had grown large enough" --
19 A. Pardon me. What page?
20 Q. Page 18.
21 THE COURT: Counsel, he has already testified to
22 this. Now, please, this is not impeachment, Mr. Simshauser.
23 This is not a class in trial advocacy.
24 BY MR. SIMSHAUSER:
25 Q. When you said in Exhibit 19303 that no further

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1 reintroduction was going to take place, you knew about the
2 situation at the Channel Islands; correct?
3 MR. McNULTY: Objection, your Honor.
4 THE COURT: The objection is sustained.
5 BY MR. SIMSHAUSER:
6 Q. Your restoration program isn't limited to restoring
7 birds to the Channel Islands; isn't that true?
8 MR. McNULTY: Objection, your Honor.
9 THE COURT: The objection is sustained.
10 BY MR. SIMSHAUSER:
11 Q. How many of the sixteen birds that were released on
12 Santa Catalina Island stayed there; do you know?
13 A. They all stayed there for a period of time, and then
14 peregrine falcons disperse anywhere from 10 to 150 miles,
15 approximately, to breeding locations.
16 We have not identified any birds breeding there;
17 we've identified the breeding locations of a couple of those
18 birds, and some of them may still be there, but not

19 breeding.
20 Q. The \$5 million that you've asked for, where would you
21 be restoring birds?
22 A. The goals would be to restore the Channel Islands --
23 would be to reverse the effects of the damage and restore
24 the population on the Channel Islands.
25 Q. Indeed, your project involves restoring peregrine

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1 falcons throughout the California coast from San Diego up to
2 San Francisco; isn't that correct?
3 A. My program involves restoration of the peregrine in
4 cooperation with other programs in North America.
5 Q. Your proposed restoration project involves restoring
6 peregrine falcons throughout the whole California coast from
7 San Diego up to San Francisco; isn't that correct?
8 A. The restoration program requires complimentary input
9 from the mainland population to the Channel Islands, and, as
10 part of the restoration program, some of the activities on
11 the Channel Islands would also benefit birds on the
12 mainland. So it's a back-and-forth population structure
13 will be -- will occur there.
14 Q. And you envision restoring birds to Big Sur as part of
15 your project; correct?
16 A. The goals of the restoration plan that I submitted are
17 specifically to address the birds in the territories that
18 will be on the Channel Islands. It will have some limited
19 benefit to birds on the mainland, and it will require input
20 from the population on the mainland as a component of it.
21 Q. You recently undertook a peregrine falcon release
22 program as a result of receiving funding from Lockheed
23 Martin and another company as mitigation in connection with
24 operation of a satellite launching business; correct?
25 A. That's one way to describe it.

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1 Q. You received 60 to \$90,000 in funds from those
2 companies; is that right?
3 MR. McNULTY: Your Honor, objection. This is well
4 beyond the scope of direct.
5 THE COURT: The objection is sustained.
6 MR. SIMSHAUSER: I have no further questions.
7 THE COURT: Redirect?
8 MR. McNULTY: One moment, your Honor.

9 (Pause.)
10 MR. McNULTY: Nothing further, your Honor.
11 EXAMINATION
12 BY THE COURT:
13 Q. Mr. Walton, what do you estimate the cost of the
14 volunteer services that you get per year --
15 A. During the --
16 Q. -- or the dollar value?
17 A. If we used them for the restoration activities?
18 Q. Yes.
19 A. The restoration plan is, as written here, doesn't
20 include volunteers. It includes --
21 Q. No. What do you estimate the dollar value of the
22 volunteer input of the program?
23 A. Well, it would be equal to the amount of money that we
24 spent.
25 THE COURT: Anything else?

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1 MR. McNULTY: Nothing further.
2 THE COURT: Thank you.
3 THE WITNESS: Thank you, sir.
4 MR. SIMSHAUSER: Your Honor, may we move in 19301
5 and 19303?
6 THE COURT: Any objection?
7 MR. McNULTY: No objection.
8 THE COURT: 19301 and 19303 in evidence.
9 (Trial Exhibits 19301 and 19303 received.)
10 We'll take the morning recess.
11 (Recess.)
12 THE COURT: All right.
13 MR. MUELLER: Your Honor, the United States calls
14 Grainger Hunt.
15 Good morning, your Honor. Jon Mueller for the
16 United States.
17 THE CLERK: Please raise your right hand.
18 GRAINGER HUNT, PLAINTIFFS' WITNESS, SWORN
19 Please be seated.
20 MR. SIMSHAUSER: Your Honor, just one preliminary
21 issue very quickly with Dr. Hunt.
22 In his testimony he provides a summary about the
23 Channel Islands -- a summary opinion that the Channel
24 Islands population will not return to its historic baseline
25 level for twenty to thirty years. That opinion is based on

1 a model of some sorts that he ran.

2 None of the modeling work is in his expert report.

3 He didn't do the modeling work until after his deposition
4 was taken in this case, and we've never been provided with
5 the model, the model runs the data he inputted into the
6 model, or anything else about the model. So on those
7 grounds we move to strike that portion of the testimony.

8 MR. MUELLER: Your Honor, with respect to the
9 modeling information, Mr. Simshauser is correct. This was
10 something that was done after his deposition. It basically
11 was generated as a result of the depositions because it
12 prompted some questions for Dr. Hunt that he wanted to
13 resolve on his own, and the graph that's been submitted as
14 an exhibit to his testimony just merely graphically
15 describes his opinions on how long it would take for Channel
16 Islands peregrines to --

17 THE COURT: Was it provided to the defendants?

18 MR. SIMSHAUSER: It was not provided to us in the
19 two years after the deposition --

20 THE COURT: No. Has it been provided to you?

21 MR. SIMSHAUSER: It was provided for this first
22 time in his testimony, your Honor.

23 THE COURT: The motion is denied.

24 THE CLERK: Please state your name for the record.

25 THE WITNESS: My name is Grainger Hunt, H-u-n-t.

1 THE COURT: We're trying to get the truth, not
2 play games.

3 DIRECT EXAMINATION

4 BY MR. MUELLER:

5 Q. Good morning, Dr. Hunt.

6 Would you please tell the Court where you
7 currently reside.

8 A. I live in McArthur, California.

9 Q. Where is that located?

10 A. In northeastern California, about eighty miles east of
11 Redding.

12 Q. Okay. And what is your current occupation?

13 A. I'm a wildlife biologist.

14 Q. And for whom are you employed?

15 A. I work for the Predatory Bird Research Group at the
16 University of California at Santa Cruz.

17 Q. Okay. So you work for Brian Walton?
18 A. Yes.
19 Q. Okay. And how long have you worked with him?
20 A. For eight years.
21 Q. Okay. And what job responsibilities have you had at
22 the bird group?
23 A. Well, right now I'm studying a population of golden
24 eagles in the vicinity of Livermore, around San Francisco
25 Bay. I've been doing that for seven years. Before that I

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1 was -- I studied peregrines on the Channel Islands during
2 '92 to '93 and a little of '94.
3 Q. How long have you been studying peregrine falcons?
4 A. Well, for approximately thirty-five years.
5 Q. And I'd ask you to take a look at the binder that's in
6 front of you there and turn to Exhibit 3251, if you would.
7 A. Yes.
8 Q. And is that a copy of your curriculum vitae?
9 A. Yes.
10 Q. And since the writing of that document, have you ever
11 appeared as an expert and testified at trial or testified at
12 a hearing as an expert on peregrine falcons?
13 A. Not on peregrine falcons, but a year ago was the first
14 time I was ever an expert witness in an actual -- in the
15 actual courtroom, and it was for the Hopi tribe. The Hopis
16 have a population of golden eagles on their reservation, and
17 I spoke in their behalf.
18 Q. And what opinions were you asked to provide there, just
19 briefly? Was it about falcons or about raptors in general?
20 A. Yes. It was about the ecology of golden eagles.
21 Q. In taking a look at your curriculum vitae, is it fair
22 to say that you authored or co-authored approximately
23 twenty-five articles on peregrines and raptors?
24 A. I think that's about right.
25 MR. MUELLER: Your Honor, I would ask that

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1 Dr. Hunt be admitted as an expert for the purposes of
2 testifying on peregrine falcon ecology and raptor biology?
3 THE COURT: You may proceed.
4 BY MR. MUELLER:
5 Q. Have you performed any --
6 THE COURT: What kind of biologist? What was it

7 again? I didn't get that.
8 THE WITNESS: I'm an ecologist.
9 THE COURT: Is it an ecological biologist, is that
10 what you said you were?
11 THE WITNESS: Yes.
12 THE COURT: Okay, thank you.
13 THE WITNESS: A wildlife biologist.
14 THE COURT: Wildlife.
15 BY MR. MUELLER:
16 Q. Now, have you performed studies of the peregrine
17 falcons on the Channel Islands, Dr. Hunt?
18 A. Yes.
19 Q. Okay. And have you written an expert report in this
20 matter?
21 A. Yes.
22 Q. Okay. And I'd ask you to take a look at Exhibit 3520,
23 sir.
24 A. Yes.
25 Q. Can you identify that for us?

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1 A. That's my expert report.
2 Q. Okay. Have you also provided written testimony in this
3 matter?
4 A. Yes.
5 Q. Would you look at the front of your binder, sir, and
6 identify that for us.
7 A. Yes.
8 Q. Okay. Now, with respect to the information that's
9 provided in your expert report, Exhibit 3520, what studies
10 did you perform?
11 A. Well, in early 1992 -- actually late 1991 we went out
12 to the Channel Islands. We surveyed all eight islands for
13 breeding pairs of peregrines, and we cruised the perimeter
14 of the islands looking, not only for peregrines, but for the
15 kinds of cliffs that peregrines tend to occupy.
16 And we did a number of other things to determine
17 the productivity of pairs. We collected eggs and eggshell
18 fragments. In 1992 we collected the entire clutches and
19 incubated them in the laboratory as part of Brian Walton's
20 program. And then in 1993 and 1994 we simply observed
21 peregrines and did no manipulations.
22 We collected -- the eggs that we collected were
23 analyzed for DDE, and Lloyd Kiff's group measured the
24 thickness of the shells. Shall I go on?

25 Q. How many pairs did you study, sir?

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1 A. For the three years we had nine pairs.

2 Q. Okay. Of those pairs do you know how many of those
3 birds were banded birds?

4 A. Nine of the fifteen birds we had as birds on the
5 Channel Islands, as territory holders on the Channel
6 Islands, had the blue bands. And fifteen rather than
7 sixteen, because two of the pairs had a single bigamous male
8 on San Miguel.

9 Q. And he was going between two nests; is that correct?

10 A. Uh-huh.

11 Q. Okay. And what is the significance of the banding of
12 the birds; what does that tell you?

13 A. Well, Brian Walton's released peregrines all wore these
14 blue bands, and so it was an indication that a good portion
15 of the releases, or a good portion of the birds on the
16 Channel Islands were direct products of the releases.

17 Q. Now, Dr. Hunt, did you also study the feeding habits of
18 peregrine falcons?

19 A. Yes, we did.

20 Q. Okay. And you studied the peregrine falcons on the
21 Channel Islands, to be specific?

22 A. Yes.

23 Q. Okay. Can you tell us what your findings were?

24 A. Well, in 1992 we collected prey remains at eyries and
25 at plucking perches around the eyries and got an idea of the

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1 spring diet -- that is, the diet of the peregrines while
2 they were feeding their young.

3 But the following year we tried to get an idea of
4 what they were eating in winter because in winter is when
5 the adult female peregrines are making their eggs, and so we
6 wanted to know what kinds of food the female peregrines were
7 eating while they are producing eggs.

8 Q. Dr. Hunt, I ask you to take a look at your binder and
9 ask you if you can go to Exhibit 3294, 3295 and 3299 and
10 identify those documents for us.

11 A. 3294 is a picture photograph of a California gull on
12 the west end of Santa Cruz Island that had been killed by a
13 peregrine. And the reason why we know it had been killed by
14 a peregrine is if you look at the next exhibit, 3295 --

15 Q. Yes, sir.

16 A. -- you look at the sternum of the gull, and you see
17 that there are notches in the sternum, and this is the
18 signature of a large falcon, the peregrine being the only
19 one occurring in any numbers on the Channel Islands.

20 And so when you find a dead bird like this with
21 feathers scattered around it and the sternum notched out,
22 the peregrine has a sort of a can-opener type of a bill, and
23 has the ability to rip these pieces of bone, and that's a
24 typical peregrine falcon kill.

25 Q. So part of your study was to identify from prey remains

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1 those types of birds that were killed by peregrine falcons
2 on the Channel Islands?

3 A. Yes.

4 Q. Okay. And what do breeding peregrines eat?

5 A. Well, on the Channel Islands -- Well, peregrines, in
6 general, eat birds, and they catch them out over the water
7 in speed-high chases, or they dive on them, and they catch
8 them out in the open and go for bear. Sometimes they strike
9 Cassin's auklets right on the top of the water and then --

10 But in the Channel Islands in the wintertime
11 they're eating mainly seabirds by weight.

12 If you look at the numbers, they may eat a lot of
13 more tiny little birds. But if you're looking at the actual
14 food that's going to the peregrine, you have to look at
15 weight, and by weight, seabirds -- that is, fish-eating
16 birds are the primary part of the diet.

17 Q. And when you said "seabirds" a minute ago, do gulls
18 qualify as seabirds in your --

19 A. Yes.

20 Q. Okay. And during your observations of peregrine
21 falcons on the Channel Islands, did you ever see gulls or
22 members of your staff see gulls feeding on sea lion
23 carcasses?

24 A. Yes, we did.

25 Q. I'd ask you to take look at Exhibit --

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1 A. We have a photograph taken on the northern end of San
2 Miguel Island of some western gulls eating a dead sea lion.

3 Q. Okay. And that's Exhibit 3299, sir?

4 A. Yes.

5 Q. Now, how far do the breeding peregrines on the Channel
6 Islands range from their nesting territories?

7 A. Well, we put radio transmitters on four of them, and
8 then we try to track their movements by, you know, not only
9 from a boat, but along the islands' shore, and we think they
10 appear to forage very close to the islands. Sometimes they
11 go way out over the water.

12 We had a bird on the east part of Santa Rosa go
13 over to Santa Cruz, which is just a few miles away. But
14 generally quite close to the eyries.

15 Q. Would you say, sir, that peregrine falcons on the
16 Channel Islands are very protective of their territories?

17 A. Yes.

18 Q. And do they range far from their territories in the
19 non-breeding season?

20 A. Well, down -- in the Arctic, peregrines have to leave
21 their territories in winter, so when they get back there
22 there's jostling between individuals for ownership. But in
23 the southern climates, where they can stay there year-round,
24 they tend to do that. In other words, they tend to be on
25 their territories year-round.

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1 Q. Now, during your studies did you also attempt to
2 analyze or determine the DDE content of the prey of
3 peregrine falcons on the Channel Islands?

4 A. Yes, we did.

5 Q. Okay.

6 A. We generally looked at the birds that were collected by
7 others involved in the study, Mike Fry in particular. We
8 collected some birds ourselves. We collected some
9 California gulls, for example. But the main part of it were
10 collected by others.

11 Q. All right. I ask you to take a look at Appendix 6 of
12 your expert report, which is 3520, sir.

13 Do you have that in front of you?

14 A. Yes.

15 Q. Does that table identify the different prey and the DDE
16 in the prey that you examined during your study?

17 A. Yes.

18 Q. All right. And can you briefly summarize the
19 information that's found in that table for us as to your
20 findings.

21 A. Yes. The amount of DDE in Cassin's auklets and gulls,
22 western gulls here, show that -- actually California gulls

23 and western gulls and Heerman's gulls show levels running
24 anywhere from 1-1/2 parts per million to over 20 parts per
25 million DDE.

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1 Q. Do you know, with respect to the gulls, how their
2 levels of DDE compare to the gulls elsewhere?
3 A. Yes. I've seen Mike Fry's data, and it shows that if
4 you go north and south of the Channel Islands there's a huge
5 spike of DDE contamination in the Channel Islands; but as
6 you go north along the Pacific Coast all the way to
7 Washington, there's much less, very little, as a matter of
8 fact, and down in Baja, California there's relatively
9 little.
10 Q. And I'd just ask you, for references to turn to Exhibit
11 3275, if you would, sir, and identify that document for us.
12 A. I don't think I have 3275.
13 Q. But you did refer to Mike Fry's data and Mike Fry's
14 data is in the table we were just referring to; is that
15 correct?
16 A. Yes.
17 Q. Okay. Thank you, sir.
18 Now, did you also study the DDE levels in the
19 Channel Islands peregrines?
20 A. Yes.
21 Q. All right. And I'd ask you to turn to Appendix 4 of
22 your expert report, 3520.
23 A. Yes.
24 Q. Do you have that, sir?
25 And can you tell us what your findings were?

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1 A. Very high levels of DDE in peregrine eggs, running
2 anywhere from 17 parts -- let's see -- 7 parts per million
3 up to 49 parts per million.
4 Q. When you said these are very high levels, compared to
5 what, sir?
6 A. Well, generally DDE in the -- at concentrations of 15
7 to 20 parts per million weight in the eggs are known to
8 cause reproductive failure, and the average was 19.4, I
9 think -- over 19 parts per million DDE. So that's quite a
10 lot. In fact, that's the threshold at which -- if it was
11 any higher, I don't think that eggs would be out there.
12 Q. Now, did you compare these levels of DDE in the Channel

13 Islands peregrines with other western peregrines?
14 A. Well, I didn't myself. I'm relying on Wally Jarman's
15 material and the Predatory Bird Research Group. But the
16 levels on the Channel Islands of about 20 parts per million,
17 the nearest -- the closest to that is about 10 parts per
18 million on the mid-coast. So the Channel Islands peregrine
19 eggs -- I mean, if you just look at the -- without doing a
20 statistical analysis, but if you look at it they're about
21 twice as high as they are anywhere else -- at least twice as
22 high.
23 Q. Now, you just mentioned Wally Jarman. Who's Dr. Wally
24 Jarman?
25 A. Wally is an expert on toxicology and organochlorines,

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1 an ecologist.
2 Q. Have you studied the rate of decline of DDE in
3 peregrine falcon eggs on the Channel Islands, or have you
4 noticed a rate of decline?
5 A. I haven't studied that.
6 Q. Now, are you also familiar with the history of
7 peregrine falcons on the Channel Islands in historical times
8 up to the present?
9 A. Well, Lloyd Kiff told us about that yesterday, but
10 there were no peregrines -- no peregrine pairs after the
11 early 1950's. The first pair was in 1987, and the first
12 successful pair that was known about was 1989.
13 Q. Now, have you compared Channel Islands peregrine
14 recovery to other areas in the west?
15 A. Well, no, but generally it's later -- it was later. I
16 mean 1987 for the first pair, and 1989 for the first
17 successful pairs later than these big populations elsewhere,
18 big areas elsewhere.
19 Q. Now, in your expert report in Observation 17 you
20 discuss Arctic peregrines and Sonoran peregrines, and you
21 compare the Channel Islands peregrines to those populations?
22 A. Yes, I mean, in the early 1990's the levels were
23 19 parts per million, but in the Arctic they went from about
24 that value in the 1970's to about 3 or 4 parts per million
25 now.

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1 And I think that's true across the board, that
2 there have been very large drops in DDE levels from, you

3 know, from 15 to 20 parts per million down to 3 or 4 parts
4 per million -- for example, in the Rocky Mountains.
5 We don't know the situation in Arizona, but the
6 levels are very low, we understand.
7 Q. Now, you mentioned a minute ago that you did surveys of
8 the Channel Islands by boat, I believe; is that correct?
9 A. Yes.
10 Q. All right. And did you survey the islands for suitable
11 habitat?
12 A. Yes.
13 Q. Nesting habitat?
14 A. Yes.
15 Q. And have you estimated or have an opinion about how
16 many suitable nesting sites are located on the Channel
17 Islands?
18 A. Yes. As Brian says, it's hard to be precise. My
19 estimate, my very rough estimate is that there was habitat
20 out there for about thirty pairs.
21 Q. Now, you also have expressed an opinion with respect to
22 numbers of birds that are on the Channel Islands now. Could
23 you just tell the Court briefly how many islands are
24 populated by nesting pairs at this time.
25 A. Well, when we did our work in 1992 through 1994 we

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1 found nine pairs, and since that time we've got six more.
2 And so we have about fifteen pairs now that are known about.
3 Q. Now, how many Channel Islands historically had nesting
4 peregrine falcons?
5 A. I believe all of them. I think San Nicolas is iffy,
6 but there was a pair found there, shot, in the record.
7 Q. How many --
8 A. So there may have been a pair. There's no reason to
9 believe there wasn't a pair at San Nicolas, and so for all
10 of the islands.
11 Q. And on how many islands are there currently nesting
12 pairs at this time?
13 A. Five.
14 Q. Now, do you have an opinion about how long it will take
15 for the peregrine falcons to repopulate all of the Channel
16 Islands?
17 A. Well, when you say "repopulate," there's two meanings
18 there. One is that the eyries would be occupied; that we
19 would have pairs there. But simply because you have a pair
20 doesn't mean that you have the population that it generates.

21 If you had ten human couples, but you didn't have
22 any young people and no old people, then you wouldn't have a
23 population; you would simply have ten couples, and that's
24 sort of what you have, at least in the early period, the
25 early nineties on the Channel Islands. You have breeding

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1 pairs, but you don't have the population that goes with them
2 that they generate.

3 So I don't remember your question but --

4 Q. Sure, that's all right.

5 (Laughter.)

6 That happens.

7 Well, I'm just curious if you have an opinion
8 about how long you think it will take for peregrines to
9 repopulate the Channel Islands?

10 A. Well, if we've got fifteen pairs now, I think we have
11 about half as many peregrines as we hope to eventually have.
12 And then at that point that population is to going to
13 generate this larger population of non-breeders. And it
14 takes about the lifespan of a peregrine from the time you
15 reach saturation of all of the breeding locations in order
16 to have the full-blown population.

17 For people that would be seventy-five years. Then
18 you would have all the age classes represented. And for
19 peregrines it's, say, fifteen to twenty years.

20 So if it's ten years before we get the thirty
21 pairs, then it's going to be another fifteen to twenty
22 before we get the full-blown population.

23 Q. So when you were talking about restoration and recovery
24 a minute ago, the issue is not so much how many breeding
25 pairs you have, but how many pairs of -- or how many

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1 peregrines you actually have that are able to fulfill the
2 population.

3 A. That's correct.

4 Q. Okay. Now, we've heard discussion about the use of the
5 term "floaters," and could you describe to us what that
6 means with respect to peregrine falcons.

7 A. Yes. Peregrines nest on cliffs, and cliffs are
8 distributed unevenly in the landscape, and we think that in
9 pristine times the suitable cliffs were occupied by pairs,
10 and birds that couldn't find a cliff would wait for a

11 vacancy.
12 And when there was a lost male or female at an
13 eyrie, then the floater takes its place, but meanwhile it
14 just waits in the wings.
15 And the floating population is very important to
16 the stability of the peregrine population because it buffers
17 the breeders against loss. So you never have a missing --
18 you would never have missing members of pairs, in their --
19 sometimes the replacement occurs in just a few hours or a
20 few days. You don't see these guys, but they're around.
21 And for a healthy population they're there to buffer the
22 breeding population.
23 And so you really want that because, if you had
24 another environmental catastrophe like DDE, you want your
25 floaters there to carry the population through the period,

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1 and so what you have is really remarkable stability in
2 peregrine falcons that aren't, you know, depressed for some
3 reason by a chemical.
4 Q. Thank you, Dr. Hunt.
5 Your Honor, that's all I have at this time. I'd
6 like to move Dr. Hunt's testimony into evidence, as well as
7 all the exhibits referenced there.
8 And I understand that the Court does have
9 reservations about the expert reports of others, but with
10 respect to the data that's contained in those expert
11 reports -- Mr. Fry's and Mr. Jarman's, especially -- we'd
12 ask that that be moved into evidence as well.
13 THE COURT: The truth of those statements is for
14 the basis of the opinions of the witness. They're all in
15 evidence.
16 MR. MUELLER: Thank you.
17 (Trial Exhibits 3520, 3275, 3294, 3295 and 3299 received)
18 THE COURT: Cross-examination.
19 CROSS-EXAMINATION
20 BY MR. SIMSHAUSER:
21 Q. Dr. Hunt, in your 1992 and 1993 field study you
22 observed the reproductive success of the Channel Islands
23 peregrine falcons; correct?
24 A. Yes.
25 Q. And you agree that it's more likely than not that a

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1 population with a reproductive success rate, such as you
2 observed, on the Channel Islands will continue to experience
3 a population increase; isn't that right?
4 A. I don't know mortality rates, so it's hard to address
5 the reproductive rates as a statement of where a population
6 is going to go. There is, however, a trend of increase that
7 could result from birds coming in from the mainland, though.
8 Q. Some of the addled eggs that you took from the nests
9 were given to Mr. Jarman; correct?
10 MR. MUELLER: Object. Lack of foundation, your
11 Honor.
12 THE COURT: The objection is overruled.
13 THE WITNESS: No, sir. The -- as I remember, the
14 eggs that we collected went to the laboratories at -- in
15 Texas for the Justice Department through the chain -- or
16 rather, I guess to the Fish and Wildlife Service through the
17 chain of custody of the thing, and then the fragments went
18 to John Schmidt who was measuring, let's see -- No, no, I'm
19 sorry. It- went to the Western Foundation of Bird Zoology
20 for measurement.
21 Q. But when you mentioned Wally Jarman having looked at
22 DDE levels in eggs a few minutes ago, those were the eggs
23 that you took out of the nest; correct?
24 A. Well, he and I were sharing the same dataset.
25 Q. Showing you what's been marked Exhibit 19311 for

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1 identification, Dr. Hunt, do you recognize that as a page of
2 your day planner dated June 21st, 1994?
3 A. Now, I recognize my writing and some of my wife's
4 writing here but --
5 (Laughter.)
6 Q. Directing your attention to the next to the last entry
7 on the left-hand column, do you see that?
8 A. Yes.
9 Q. That's your writing; correct?
10 A. Yes.
11 Q. And what you wrote there was, in the first sentence,
12 was quote, "Wally sees southern Oregon and far northern
13 California as high as the Channel Islands"; correct?
14 A. Yes.
15 Q. And what you were referring to was the DDE levels in
16 the eggs that we were just discussing; correct?
17 A. Yes.
18 Q. Your estimate that the Channel Islands would support

19 about thirty pairs of peregrine falcons, that's a most
20 optimistic number; isn't that right?
21 A. No, sir. I think that that wasn't the high end of an
22 estimate. That was our estimate that was a ballpark
23 estimate of the numbers of peregrines one might see in the
24 Channel Islands, say, in pristine times or at some future
25 time when there's a clean environment.

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1 Q. Do you recall saying at your deposition that that was
2 the most optimistic number?
3 A. No, sir.
4 Q. Showing you page 140, lines 10 to 14 of your
5 deposition:
6 "Question: And the thirty-breeding territory
7 number that's in your expert report that you projected in
8 this case, is that a most optimistic number?
9 " Answer: I think so."
10 Did I read that correctly?
11 A. Yes, sir. And I think it is optimistic that we would
12 have a complete recovery on the Channel Islands. I mean
13 I -- and I am optimistic, but I don't know what you mean.
14 Q. You published a manuscript in which you say that a
15 large number of factors, other than availability of a cliff,
16 relate to the adequacy of a particular location as a
17 peregrine falcon nesting site; isn't that right?
18 A. Yes.
19 Q. And that paper is entitled the Natural Regulation of
20 Peregrine Falcon Populations, published in 1988; is that
21 right?
22 A. Yes.
23 Q. Showing you Exhibit 19314 for identification, is that
24 that paper?
25 A. Yes.

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1 Q. And in that paper you discuss the concept you refer to
2 as suitable breeding locations; is that right?
3 A. Serviceable breeding locations.
4 Q. And you identify approximately a dozen variables as
5 affecting the quality of potential falcon breeding
6 locations?
7 A. Yes.
8 Q. Including prey availability, adequate substrate for

9 nesting, adequate temperature regime, appropriate
10 directional exposure --
11 THE COURT: Counsel, have you ever heard of beyond
12 the scope of the direct examination? Nobody over here has.
13 Have you heard of beyond the scope of direct examination?
14 MR. SIMSHAUSER: I believe he testified on
15 direct --
16 THE COURT: Let's get to this witness' testimony
17 in this courtroom.
18 BY MR. SIMSHAUSER:
19 Q. In coming up with your estimate of thirty peregrine
20 falcon nesting sites at the Channel Islands, did you
21 evaluate the factors in your papers, sir?
22 A. No, sir. These are sea cliffs, a lot of them, most of
23 them, except for the ones on the interior part of the
24 islands. And sea cliffs are notoriously excellent peregrine
25 breeding habitat that Queen Charlotte Islands, for example,

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1 off the coast of British Columbia, sort of like the Channel
2 Islands, is a place where there's a real concentration of
3 peregrine falcons.
4 So when you look at an ocean cliff, you're
5 including a lot of these features that you would take a hard
6 look at inland; but on the coast peregrines hunt over vast
7 areas of water.
8 The directional exposure thing I give up on -- I'm
9 sorry -- the updraft thing, you know, it's a hard thing to
10 measure. There are some items there that I couldn't look
11 at, but I think overall it's a -- that was my call, about
12 thirty good sites.
13 Q. Now, you mention the Channel Islands where there aren't
14 known peregrine falcon pairs today -- San Clemente, San
15 Nicolas and Santa Catalina. You agree there's no suitable
16 habitat for peregrine falcons on San Nicolas Island; isn't
17 that right?
18 A. I think if -- I think if there were no human beings,
19 cats and things like that, I don't know. If there were --
20 not cats, but if there were no human beings on San Nicolas
21 Island, I think there might be a pair there.
22 Q. Given current conditions, do you agree there's no
23 suitable habitat at San Nicolas Island?
24 A. The habitat is fine, but the human influence is not.
25 Q. Would you turn to page 7, lines 25 to 27 of your

1 written testimony, please.

2 A. Could you repeat that, please.

3 Q. Page 7, lines 25 to 27.

4 A. Yes.

5 Q. And what you say there is there's no pairs on the three
6 islands despite the occurrence of suitable habitat on the
7 latter two islands; correct?

8 A. Yes. I was thinking cliffs. There are no good cliffs
9 on San Nicolas Island. But peregrines do nest on the
10 ground. It was an oversight, I guess.

11 Q. Now, as to San Clemente you agree there's little
12 favorable nesting habitat there; is that right?

13 A. I think there's -- I think there's space for about
14 three pairs on San Clemente, two or three pairs. In fact, I
15 believe there were two pairs known in San Clemente.

16 Q. And you agree that at Catalina Island a large number of
17 falcons have been released and not a single one has stayed
18 there, to your knowledge; correct?

19 A. To my knowledge.

20 Q. You agree that the lack of falcons on Catalina Island
21 could reflect low prey availability; is that --

22 THE COURT: He didn't say that. To his knowledge.

23 MR. SIMSHAUSER: I was moving to a different
24 question, your Honor.

25 BY MR. SIMSHAUSER:

1 Q. You agree that the absence of falcons on the -- the
2 current absence of falcons on Santa Catalina Island could
3 reflect low prey availability there?

4 A. Well, if you look at Santa Rosa Island, you would
5 certainly say that there's no prey availability there
6 compared to, say, San Miguel Island. They're not a whole
7 lot of seabirds on Santa Rosa Island, but yet that's where
8 we have most of peregrine pairs.

9 I don't think that I could make that call. It's
10 an island with cliffs.

11 Q. Do you recall saying in your deposition that the lack
12 of peregrines at Catalina Island could reflect low prey
13 availability, sir?

14 THE COURT: That's not the question you asked him,
15 Counsel, and that's not impeaching of his testimony.

16 BY MR. SIMSHAUSER:

17 Q. Dr. Hunt, you don't know how many of your estimate of
18 thirty breeding locations would be occupied today if DDT had
19 never been invented; isn't that right?
20 MR. MUELLER: Beyond the scope of direct, you
21 Honor.
22 THE COURT: The objection is sustained.
23 MR. SIMSHAUSER: I have nothing further.
24 THE COURT: Redirect?
25 MR. MUELLER: No, sir, your Honor.

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1 THE COURT: Doctor, just a moment.
2 EXAMINATION
3 BY THE COURT:
4 Q. What's an eyne, e-y-n-e?
5 A. E-y -- Oh, eyrie, e-y-r-i-e. It's a peregrine --
6 Q. In your report --
7 A. Maybe it's a misprint.
8 (Pause.)
9 Well, there's no e-y-n-e, then. I can't find it.
10 It's not either of your reports, in either one of mine. All
11 right.
12 So I have the numbers right that you gave us,
13 that's ten years to get to a place where in fifteen or
14 twenty years you have a total population on the islands.
15 A. Yes.
16 Q. So it's thirty-five total today.
17 A. No. Well, if it took fifteen years to get the thirty
18 pairs, and in fifteen to twenty to complete the full-blown
19 population, that would be twenty-five to thirty years.
20 THE COURT: All right. Thank you.
21 Anything else?
22 MR. MUELLER: No, sir your Honor.
23 THE COURT: You may step down.
24 Call your next witness.
25 MR. SIMSHAUSER: Your Honor, we would move in

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1 19311 and 19314 into evidence.
2 THE COURT: Any objection?
3 MR. MUELLER: No objection, your Honor.
4 THE COURT: 19311 and 19314 in evidence.
5 (Trial Exhibits 19311 and 19314 received.)
6 MR. MUELLER: Your Honor, the United States calls

7 David Garcelon.
8 THE CLERK: Please come forward.
9 Please raise your right hand.
10 DAVID GARCELON, PLAINTIFFS' WITNESS SWORN
11 THE CLERK: Be seated.
12 For the record, sir, would you please state your
13 full name and spell your last name.
14 THE WITNESS: David G-a-r-c-e-l-o-n.
15 DIRECT EXAMINATION
16 BY MR. MUELLER:
17 Q. Good morning, Mr. Garcelon.
18 Can you please tell us your occupation.
19 A. I'm the president of the Institute for Wildlife Studies
20 which is a non-profit wildlife conservation organization.
21 Q. And can you be a little more specific about what the
22 Institute for Wildlife Studies does?
23 A. Oh, we've been involved in a lot of threatened and
24 endangered species work, are currently working with the
25 endangered loggerhead shrike on San Clemente Island and a

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1 threatened species of the sage sparrow there.
2 Also the Island fox across all of the Channel
3 Islands, and we work on bald eagles and some different areas
4 other than on the Channel Islands; also New York state -- we
5 have a program there.
6 Q. And the program in New York state involves bald eagles;
7 is that correct?
8 A. That's correct.
9 Q. Okay. How long have you been studying bald eagles?
10 A. It's been approximately twenty-five years.
11 Q. All right. I ask you to take a look at the binder in
12 front of you. I'm not certain which one it's in, but I'm
13 asking you to look at Exhibit 3248. They should be in
14 numerical order.
15 A. Yes.
16 Q. Is that a copy of your curriculum vitae?
17 A. Yes, it is.
18 Q. Okay. And did you also study bald eagles with respect
19 to this case?
20 A. Yes, I did.
21 Q. Okay. And how long have you been conducting those
22 studies?
23 A. I've been working with bald eagles on the Channel
24 Islands since about 1976, and --

25 Q. Now, you've also written some expert reports with

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1 respect to this matter; is that correct?

2 A. Yes, sir.

3 Q. Okay. And I'd ask you to look at Exhibit 3422 and see
4 if you can identify that for us, please.

5 A. 3422 is the food habits report that we did.

6 Q. All right. And then 3426, if you would, sir.

7 A. 3426 is the restoration report that I wrote.

8 Q. All right. And one final one 3510, sir. It would be
9 in the other binder, I believe.

10 A. Yes. 3510 was the effects of organochlorine
11 contaminants on bald eagles on Catalina Island.

12 MR. MUELLER: Your Honor, at this time I would ask
13 that Mr. Garcelon be accepted as an expert in the area of
14 bald eagles and their ecology and life history.

15 THE COURT: Go ahead.

16 BY MR. MUELLER:

17 Q. Mr. Garcelon, can you give us a brief description of
18 bald eagle natural history?

19 A. Well, bald eagles are one of the two eagle species
20 found in North America, along with the golden eagle.
21 They're the largest birds of prey in North America. The
22 California condor is the only larger bird.

23 The bald eagle ranges across North America. They
24 have about a six- to seven-foot wingspan; weigh somewhere
25 about eight to thirteen pounds, the males being slightly

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1 smaller -- about 20 percent smaller than the females.

2 And they nest generally in very large prominent
3 trees, and usually you'll find them in one of the largest
4 stands of trees in an area where they occupy. They like to
5 have a good commanding view of the whole area. And areas
6 where they don't have a lot of trees, then they'll nest on
7 cliff sites or on big rock outcrops.

8 Q. How long do bald eagles live, generally?

9 A. Well, I believe in captivity they've lived as long as
10 forty years. We've had birds on Catalina Island that are --
11 there are still birds out there that were released in 1981,
12 so they're approaching twenty years now.

13 Q. How long do bald eagles mate --

14 (Laughter.)

15 Well, how long do they stay -- I guess I should
16 rephrase that question.
17 THE COURT: Each time or over the --
18 BY MR. MUELLER:
19 A. I think you mean how long do they normally stay a mated
20 pair.
21 Q. Thank you.
22 A. Typically that is a -- as far as I understand, they
23 stay a mated pair for life. That's, of course, unless one
24 of the members of the pair dies. There have been pairs that
25 have been marked and things like that. In general, they

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1 tend to stay together for life.
2 Q. Aside from bird watching what services do bald eagles
3 provide in the ecosystem generally?
4 A. Well, it's kind of interesting, you know. Bird
5 watching is something I think that people do who are
6 interested in trying to see a variety of number of species,
7 and they're really in it for that purpose.
8 Where something like a bald eagle, I think, is a
9 little different. They're -- I mean, it's our national
10 symbol. They're very majestic, and I think a lot of people
11 are very excited about seeing them, even if they might not
12 be, quote/unquote bird watchers. They're just a pretty
13 incredible bird to see.
14 Apart from that they also play -- You know, they
15 serve an important role in the environment. They're not
16 only active foragers, where they'll take fish and birds, and
17 things like that, but they're scavengers, too. They'll go,
18 and they'll clean up carcasses, feed on carcasses that may
19 be around and the -- they --
20 Because they're predators, too, they'll sometimes
21 pick on species that may be more vulnerable, like sick or
22 injured birds, and things like that, which play an important
23 role in the whole environment.
24 The other thing we found sort of more recently
25 that was interesting that shows a role of the bald eagle

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1 that we really didn't know existed was that recently the
2 Island fox, which occurs just on the Channel Islands, has
3 decreased in great numbers. They were on San Miguel -- for
4 instance, there were 450 of them, and now we're down to

5 about 15, and that's occurred across the northern Channel
6 Islands.

7 And happened is is golden eagles moved in, and
8 they are much more aggressive predators on terrestrial prey,
9 like foxes. And the foxes were the king of the beast out
10 there. They only weighed four or five pounds, but they were
11 the biggest, toughest thing out there until the golden
12 eagles moved in. And the golden eagles started, you know,
13 killing and eating the foxes.

14 And what we're thinking -- we tried to figure out,
15 well, why wouldn't they have been out there historically.
16 Golden eagles were never reported to be breeders out on the
17 islands, and very few reports of them at all. And we think
18 that probably the presence of bald eagles out there
19 historically had something to do with it. Bald eagles and
20 golden eagles don't get along all that well together as far
21 as wanting to breed close to one another. And if the bald
22 eagles had established territories there, then the golden --
23 they wouldn't be very kind to golden eagles that happen to
24 come into the area.

25 So we think that part of this reason that golden

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1 eagles were able to come in and essentially almost wipe out
2 the foxes on the islands may have been due to the lack of
3 bald eagles being there. So it's just another role.

4 Sometimes we don't really learn how important a
5 species is to the environment until it's gone.

6 Q. Now, do you know whether historically bald eagles were
7 found on the northern Channel Islands?

8 A. Yes.

9 Q. Now, have you been involved in the reintroduction of
10 bald eagles to the Channel Islands?

11 A. Yes, I have.

12 Q. How long have you been working on that project?

13 A. I've been working on it since about 1976, actually --

14 Well, the early work I did from '76 to '78 was just
15 releasing some rehabilitated birds, birds that had come in
16 that were sick and injured, and we released some of those
17 down on the Channel Islands just because we wanted to find
18 an out-of-the-way area where there weren't a lot of people
19 around to let them go.

20 And then starting in 1978 I began formulating the
21 reintroduction program the way it would normally be done by
22 bringing in young birds for release.

23 Q. What were the islands that you originally placed birds
24 on back during that time?
25 A. The rehabilitated birds?

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1 Q. Yes, sir.
2 A. Those were released on San Clemente Island.
3 Q. Why did you pick San Clemente?
4 A. Well, San Clemente is a Navy-owned and operated island,
5 and they -- the public access to the island is quite
6 limited, and we were looking for an area -- Some of these
7 birds that we were releasing had been in captivity a long
8 time and had grown accustomed to people, and we didn't want
9 them getting to trouble by getting down close to people
10 until they had a chance to really get their feet on the
11 ground.
12 And the Navy was very interested in the idea of
13 having some birds released out there.
14 Q. Why did you think that it was appropriate to place
15 rehabilitative birds on the Channel Islands as opposed to
16 the mainland?
17 Q. Well, like I said, primarily it was because, you know,
18 it was an area that was going to have less disturbance than
19 we thought they would have on the mainland.
20 Q. You heard Doctor, or Mr. Kiff's testimony the other
21 day, I believe; is that correct, sir?
22 A. Yes.
23 Q. Okay. And you heard his testimony with respect to
24 historical locations of bald eagles and the timing of their
25 extirpation; is that correct?

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1 A. Yes.
2 Q. Okay. And following up on that, did you have any
3 concerns about placing bald eagles on the Channel Islands
4 when you first began your efforts with respect to DDE
5 contamination?
6 A. No, I didn't. When we first started the program, when
7 I was looking into doing it back in the late 1970's, one of
8 the reasons that I learned really about the bald eagles as
9 being out there historically was that I was writing up a
10 report on what we had accomplished with our release of
11 rehabilitative birds, and, through the literature, I was
12 able to find that actually there were quite a few bald

13 eagles historically found on the Channels Islands, and this
14 was --
15 There was one report by a gentleman, John Cooper,
16 who, back in the late 1800's, reported seeing thirty bald
17 eagles in immature plumage around the north end of Catalina
18 Island.
19 And then, in some other papers I was able to find,
20 again said that bald eagles were fairly common. And then
21 this was supported again later when Lloyd Kiff's paper came
22 out in 1980, where he had spent a little more time looking
23 into the historical records of where bald eagles had
24 occurred.
25 Also, with the recovery of the pelican, I was

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1 encouraged by the fact that if there had been any problems
2 out there with DDE that they were diminishing and the
3 pelicans were starting to recover and breed, and the habitat
4 on the islands seemed fine; there was still -- it hadn't
5 changed dramatically; there were still trees and cliffs and
6 things for the birds to nest on; fish in the waters; and so
7 I thought this was going to be smooth sailing.
8 Q. Subsequently did you release other eagles on the
9 Channel Islands?
10 A. Yes.
11 Q. Okay. And what period of time was that?
12 A. We started the release on Santa Catalina Island in
13 1980, and between 1980 and 1986 we released thirty-three
14 birds onto the islands.
15 Q. And how were those birds released?
16 A. They're released -- You go up to an area where there
17 are wild birds. We went to northern California, Washington
18 state and British Columbia, and there were populations that
19 were breeding well, and we were allowed to go in and take
20 one chick out of a nest that had two or three. And that
21 always leaves one bird for the parents to continue to raise.
22 And we'd get them when they're about seven or
23 eight weeks old and transport them down. And that way, at
24 that age, they can already feed themselves. We don't have to
25 worry about them imprinting by us handing them food.

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1 And at that point they can also -- they begin to
2 start recognizing sort of surroundings beyond just the rim

3 of the nest, and that's when we want them to be in their new
4 area so they can be becoming accustomed to the new release
5 area as their home.

6 Q. Now, what is the term for that type of release when you
7 release bald eagles that way?

8 A. That's referred as hacking. I think Brian Walton may
9 have mentioned that, too. That's just sort of releasing
10 birds off an artificial nest, or an artificial platform in a
11 new area.

12 Q. I'd ask if we could take a look at Exhibit 3303,
13 please. It's a photograph in your binder.

14 A. Yes.

15 Q. Can you identify that photograph for us and what you
16 see there.

17 A. Yes. This is an adult bald eagle sitting on a nest on
18 the -- what we call our west-end territory. And what's
19 pretty interesting about this is that I found a picture in a
20 book that was -- I think the picture was taken back in the
21 1930's, and I was able to figure that this is the exact same
22 location that the eagles were nesting on at that point.

23 So there was something good about that site back
24 then and something still good about it. The picture was
25 taken from the opposite direction of this one, but

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1 everything else was recognizable, and the author mentioned
2 that this was at the -- on the end of Catalina Island.

3 And so it was kind of exciting to see that that
4 many years later the birds that we released had picked the
5 same site.

6 Q. Now, referring back to your hacking project, I'd like
7 you to take a look at Exhibit 3304 and explain to us how
8 that relates to your project.

9 A. 3304, when we go into a nest when we have to replace
10 these eggs quick -- quickly, because if you spend too much
11 time approaching the nest when they have eggs, the birds
12 will abandon. They just -- They'll only take so much
13 disturbance when they're on eggs. It's a sensitive time for
14 them.

15 And they nest on these areas that aren't really
16 the best places to get into; they're on cliffs. And so to
17 do that, in some cases we've had to go in suspended
18 underneath a helicopter to be able to quickly get into the
19 nest site and out with the eggs. And when they're in their
20 place, we'll put an artificial egg in.

21 My colleagues don't think this is very smart.
22 They refer to this as a dope on a rope when I do this,
23 but...
24 (Laughter.)
25 Q. Have you personally done this kind of work?

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1 A. Yes, I have.
2 Q. Now, could you describe the process in which you take
3 these eggs, and what happens with them once you do that.
4 A. Yes. When we go into the nest, we'll take the egg out
5 and place it into a padded container and replace it with, as
6 I said, an artificial egg. It's something that's the same
7 size and shape and color as their natural egg, and then --
8 Q. Just to interrupt you for a second, if you'd look at
9 Exhibit 3305, and ask if you could identify that for us,
10 sir.
11 A. Certainly. 3305 is just a picture of the small padded
12 container we use just when we're at the nest site. You
13 know, when you're under a helicopter or climbing back up a
14 cliff, you know, you want to have something small that you
15 can handle. And the --
16 Depending on which direction you're looking at
17 this picture, if the handle's at the bottom of the page, the
18 egg on the right is the egg that's been removed from the
19 nest. And you can see it's a little bit discolored there,
20 and that's just some dried blood and stuff remaining on the
21 egg from the eggling process that usually gets worn off
22 after the egg has been incubated and turned by the adults.
23 And the artificial egg or dummy egg is the one
24 shown on the left.
25 Q. What is the purpose of the dummy egg?

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1 A. Well, the dummy egg we put in there to hold the birds
2 at the nest site. If we were to just take the eggs and
3 remove them, then that would be it; the birds would just
4 probably abandon at that point. So it's kind of a
5 place-holder. You know, we put an egg in there for them to
6 continue to sit on, and it generally holds them there until
7 we're able to put a foster chick back in the nest at a later
8 time.
9 Q. Okay. I'd ask you to take a look at Exhibit 3313, if
10 you would please.

11 Now, once you remove the eggs from the nest, what
12 did you do with them?

13 A. At that point we put them into a portable incubator,
14 transport them up to the San Francisco Zoo, at least the
15 last several years it's been the San Francisco Zoo. The
16 first few years it was the Predatory Bird Research Group
17 where Brian Walter worked at.

18 Then there they take great care of the eggs.
19 Generally we've had a problem with a lot of water loss. The
20 zoo has difficulty in hatching out these eggs because of
21 eggshell problems. And so they'll coat them with a glue or
22 wax, and more recently they've used a new substance called
23 tegaderm (phonetic), and it's sort of an artificial skin
24 that they put over the top of the egg, and that's really
25 helped out with some of the problems.

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1 But they put them then in a high-humidity
2 incubator, and if they're successful in hatching them out,
3 or if they hatch out eggs from their captive colony, then we
4 get these young chicks, and we take them down to the island
5 at that point.

6 Q. And you mentioned a minute ago something about water
7 loss. Was that with respect to the egg, or what did you
8 mean by that?

9 A. Yes. The egg is supposed to lose a certain amount of
10 its volume, its water over the whole incubation process, but
11 because these contaminated eggs have eggshell problems,
12 their structure is affected, and so they lose water more
13 rapidly.

14 The zoo has to take some steps to try to reduce
15 that water loss process, and sometimes they're covering more
16 and more of the egg to try to get the water loss down to
17 what the normal rate should be. And they know that because
18 they have a lot of captive birds there that are producing
19 eggs, and they can compare it to what the eggs are that I'm
20 bringing in.

21 Q. I ask you to take a look at Exhibit 3314, please, and
22 can you identify that for us, please.

23 A. Yes. This is a young bald eagle chick, probably about
24 a week old, very small, and this is in a container that, the
25 kind that we would typically use to move the bird from --

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1 into the nest. So we're either walking down the cliff base
2 to try to get where the nest is, or we're swinging under the
3 helicopter and bringing him to the nest in that container.
4 Q. And then the chick is placed onto the nest; is that
5 correct?
6 A. That's correct.
7 Q. Okay. And have the bald eagles that are nesting there
8 on Catalina Island accepted these chicks?
9 A. For the most part, yes. We've had a couple where we
10 get bald eagles who have never seen a chick before. It's
11 their first time around, and, you know, we've taken their
12 eggs and given them a dummy egg to sit on, and so all of a
13 sudden we come back and we put this chick in the nest.
14 And when I tried this the first time, I was a
15 little nervous about how long it would be the adults would
16 be away before they'd come back. So I used a larger chick.
17 I used something maybe a couple weeks old. And they're sort
18 of like a small football. And I put them in the nest, and
19 the adults would fly over and look at this and go so, what
20 exactly is this? I mean, you know, they had never seen a
21 chick before. And they'd fly around and fly around and
22 looking down there, and in a couple of cases the birds
23 didn't come to the nest, and so --
24 But after you get them to come in once, then you
25 know they'll always come back. Once they know what the

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1 process is and they can look at it and go, I know that is,
2 that's a chick, then they come right back. And they're very
3 good parents.
4 Q. Now, how do chicks at this age feed?
5 A. Well, at this age, the chicks are fed -- In the wild
6 they would normally be fed completely by their parents. And
7 in our case, when we raise them up either at the zoo, or
8 when the zoo transfers them to us to bring down, we feed
9 them with a puppet, and we have a bald eagle puppet that we
10 put on our hand, and that way, again, the chick gets used to
11 the idea of this big old white head and yellow beak coming
12 down to them and with a piece of food in it, and also
13 prevents any chance of them associating food with people.
14 Q. Now, why did you begin to remove these eggs from the
15 nest at all? Why not just leave them and let the parents
16 hatch them?
17 A. Well, it certainly wasn't my plan. When I started the
18 project I was pretty confident that this was going to just

19 be something that I would be, at this stage, writing papers
20 on and giving talks, and it would really be great, you know,
21 because I'd be-- have been the person that recovered bald
22 eagle on the Channel Islands. It didn't really work out
23 that way.

24 We had some birds four years after we released
25 them, which we were pretty excited about, because that's

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1 about the earliest age we'd normally expect them to be able
2 to produce. They're generally four to six years old.

3 Build a nest and looked in an incubating posture
4 on the nest and all, and then nothing happened. I thought,
5 well, that's sometimes housekeeping. I thought where they
6 go through the process, but they don't really do anything.
7 And then the next year the same thing happened.

8 And then it wasn't until 1987 that we had a pair
9 that laid eggs, and we were able to look down into the nest,
10 see the eggs, and we were watching them. And all of a
11 sudden they were off the nest, and we went down there, and
12 the eggs were broken.

13 And the same thing then occurred in 1988 at
14 another nest site. And it was in 1998 that we got a little
15 bit of yolk off of one of the eggshells, and I sent that to
16 Dr. Risebrough for analysis, and he came back telling me it
17 had high concentrations of DDE.

18 Q. Just backing up one further point. You also mentioned
19 to initially get bald eagles nesting on the Channel Islands
20 that you undertook a hacking project. And I wonder if you
21 could take a look at Exhibit 3319, sir.

22 A. Yes.

23 Q. And you can describe that for us, please.

24 A. Well, your Honor, this is the large -- this is the
25 hacking box that we release the birds out of. It's about an

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1 eight-foot square area inside where we build a large stick
2 nest for the birds to be able to grow up in -- and, again,
3 we're getting them when they're about seven or eight weeks
4 old. And at that point we're introducing food to them. We
5 have a shoot that we can open up in the back and drop food
6 through. We can watch them through one-way glass and see
7 how they're developing and behaving.

8 And after they reach about twelve weeks old

9 they're actually hovering around the inside of this nest,
10 and at that point we lower the -- we lower this door right
11 here (indicating), which is part of the front of the
12 platform, and the birds are allowed to fledge.
13 And this is a couple of youngsters here that just
14 recently started to fly. You can see the orange wing
15 markers that we put on the birds to help identify who they
16 are. And for about a month after we let them go, we
17 continue to provide food either in the platform or around
18 it, and after about a month period of time they're able to
19 find food elsewhere on their own.
20 Q. All right. Now, how can you tell that these are
21 immature birds?
22 A. Well, you'll notice that they're all dark plumage. .
23 They don't have the characteristic white head as the first
24 picture that I showed you, the white head and the yellow
25 bill. And that's what the adults get. It's kind of a

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1 process that over four or five years they go from this
2 totally dark plumage into what's called the distinctive
3 plumage where they have the white head, white tail and dark
4 body.
5 Q. At what age are bald eagles capable of breeding?
6 A. Like I said, I think the earliest is about four years,
7 but it's more common in the literature that you hear people
8 talk about five years; and sometimes then it can be later
9 than that.
10 Q. All right. Now, a minute ago you referred to sending
11 egg yolks collected from the first breeding attempts to Dr.
12 Risebrough for analysis. Did he tell you what levels of DDE
13 were found in those eggs?
14 A. Well, in that fragment that I sent in from 1988, I
15 think that was about 1100 parts per million lipid weight, as
16 I remember. I don't know exactly, but I think that's about
17 what it was, and that's -- I think the conversion was
18 something like -- I think he told me about 37 parts per
19 million wet weight, is what it would have been.
20 Q. Now, is that a typical level of DDE to find in a bald
21 eagle egg?
22 A. Well, I don't know exactly what you mean by "typical."
23 It would be a level that you wouldn't want to find in a bald
24 eagle egg, because, you know, from the literature when you
25 get above 3 to 5 parts per million you start to see

1 reproductive failure, and this was significantly above that.

2 Q. Now, earlier we identified your food habit study, and

3 I'd like to turn to that for a minute, if you would, sir.

4 During that study did you determine what --

5 THE COURT: New subject, Mr. Mueller, and we'll
6 take the noon recess at this time.

7 But I have, I guess, what is good news and bad
8 news, because the good news is you won't have to put up with
9 me for a week. The bad news is it's going to delay this
10 trial, but maybe perhaps it might be well the time to take
11 and to have your clients on each side talk about settlement
12 in this matter.

13 My judicial duties will take me back away until
14 next Friday, so we'll see you next Friday at 9 o'clock.

15 MR. MUELLER: Thank you, your Honor.

16 (Proceedings adjourned to Friday,

17 October 27, 2000, at 9:00 a.m.)

18 REPORTER'S CERTIFICATE

19

20 I CERTIFY THAT THE FOREGOING IS A CORRECT
21 TRANSCRIPT FROM THE RECORD OF PROCEEDINGS
22 IN THE ABOVE-ENTITLED MATTER.

23

24 _____ October 20, 2000 _____

LEONORE A. LeBLANC

25 Official Reporter

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